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PROCEEDINGS OF THE RESEARCH CONFERENCE ON COLLEGE DROPOUTS.
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THIS CONFERENCE WAS HELD IN AUGUST 1964 TO ENCOURAGE RESEARCH AND EXPERIMENTATION IN THE AREA OF COLLEGE ATTRITION. APPROXIMATELY 25 PARTICIPANTS WERE SELECTED FROM VARIOUS DISCIPLINES. SELECTED PROCEEDINGS WERE REPORTED. PART ONE TOPICS WERE INSTITUTIONAL POLICIES, WARNING SIGNS OF THE DROPOUT, AVENUES OF PREVENTION, AIDS FOR DROPOUTS, AND RECOMMENDATIONS. PART TWO WAS DEVOTED TO A RESOURCE PAPER TITLED NEEDED RESEARCH ON COLLEGE DROPOUTS. THE MAJOR CONCLUSION DRAWN FROM THIS ACTIVITY WAS THAT RESEARCH ON COLLEGE ATTRITION CAN BE CATEGORIZED INTO CENSUS, EVALUATIVE, ANALYTICAL, AND DESCRIPTIVE STUDIES. (RS)

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Proceedings of the Research Conference on COLLEGE DROPOUTS

Cooperative Research Project Number F-065

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PREFACE

In August 1964, a highly selected group of college administrators, psychologists, and educators met to discuss research and studies associated with students who leave college before completing degrees--the college dropout. In three days of spirited discussions these men and women reviewed completed studies of college dropouts, looked over studies now in process and programs being tried to reduce dropouts, and considered possibilities for future studies.

The precise origin of the Conference is as difficult to pinpoint as the nature and extent of the problem being studied. Interest in having this Conference was engendered by dropout conferences for elementary and secondary school personnel in the summer of 1963 and action programs the following school year, questions being received from Congress, educators, and citizens in general, various facts and figures concerning college dropout rates the source of which seemed doubtful. In the spring of 1964, the United States Office of Education asked the cooperation of The University of Tennessee in sponsoring a research conference on college dropouts. From these early discussions the Gatlinburg Research Conference on College Dropouts developed.

Participants for the Conference, whose names appear in Appendix A, were selected from a variety of positions and disciplines in an effort to allow issues to be seen from different viewpoints. The Conference, therefore, included college administrators who had worked with the very individuals whose personal problems made them the potential or actual dropouts, researchers who had studied parts of the problem and dealt with abstract issues and with the statistics involved, and professors who had taught, or tried to teach, all enrollees regardless of whether or not their students dropped out or eventually graduated.

The Conference was structured on the premise that free exchange and flow of information, findings, procedures, and ideas for next steps offered the best path of accomplishing the objective of the Conference: namely, to encourage research and experimentation in the general field of college withdrawal and dropouts. Therefore, consensus of participants on all issues was neither sought nor obtained. Some prevailing sentiment did emerge, however. The following Proceedings attempt to report those viewpoints.

The Conference Director assisted by Dr. John R. Hills and Dr. L. Joseph Lins took notes during the meetings of the Conference and cooperated in writing the Proceedings. Tape recordings of the sessions assisted in the assembling of ideas and comments.

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INTRODUCTION

In Part I of the Proceedings which follow, an effort will be made to review some of the highlights of the Research Conference on College Dropouts. Section A (Part I) considers a somewhat controversial area concerning the actions of institutions which encourage students to withdraw and to drop out. Early warning signs of dropout and useful avenues to the reduction of dropout appear in Sections B and C. The next Section provides the thinking of participants on aids and helps for the person who has left school.

Section E presents the rationale for another national study on dropouts, along with some of the problems and needs associated with such a project. Other possible studies on college attrition and graduation rates are discussed. Finally, the major recommendations of the Gatlinburg Research Conference on College Dropouts appear (Section G).

A paper presented by Dorothy Knoell in the opening session of the Gatlinburg Conference entitled "Needed Research on College Dropouts" comprises Part II of the Proceedings.

The numbers and the types of persons involved as college dropouts are tied into the much broader topic of educational goals and objectives for institutions and the people who attend them. An attack on college attrition and its causes cannot be conducted in isolation; changes in one part will doubtless affect other parts of the structure. Involved in studying dropouts are such issues as who should be educated and for how long, curricular offerings of colleges and universities, practices and policies in admission and retention, what constitutes an education and the manner in which it can be obtained, and the factors in the college environment or personality of a student which may be related to his completing or not completing a formal educational program.

Does the college dropout, when considered in a broader context of higher education in America, really constitute a problem? "Yes!" say the participants. There are three basic reasons for this concern: (1) need for educated manpower as a human resource, (2) questions about the implications of the rising admission standards in many colleges and already high ones in others, and (3) fear that students mentally qualified for college work will not complete it. But while answering affirmatively, it should not be concluded that dropouts are of equal concern or that the term dropout means the same to the people using it.

An institution all too frequently includes among its count of dropouts all categories of students who do not maintain continuous attendance at that institution. With this all-inclusive use of the word, limited to what happens within the confines of a single institution, an erroneous concept develops. In order to obtain a clear view of how many students drop out of college, it is necessary to take into consideration transfer within an institution or among institutions and the leaving and re-enrolling of students in the same institution. The participants did not suggest any means for ending the confusion resulting from terminology. There developed a tendency, which will be followed in this report, of using the following terms:

1. A college dropout is a student who leaves college before receiving a degree, certificate, or some other institutional recognition of completion of a program.

2. A college withdrawal is a student who leaves one institution and transfers to another college, university, or educational program.

The participants in the Conference on College Dropouts expressed concern about all dropouts, however defined--concern that, insofar as it is possible for education to assist these persons in the fulfillment of their mission, education should be available and students should be encouraged to enroll. The same principle is applicable for the non-dropout.

While affirming the principle that every effort should be made to encourage the individual to take advantage of the most appropriate educational situation for him, the participants in the Conference differentiated between types of dropouts and the degree of interest which the institution or educational leaders in general might have about these dropouts.

The educator is not greatly disturbed, certainly, when a student graduates if the prior educational sequence has been such that the curriculum has given the individual the best preparation which he is capable of receiving. If the baccalaureate program is inappropriate for the individual or if the individual and society could profit from further education of that individual through graduate or professional programs, the educator should become concerned because graduation is not the proper educational terminus for that individual. The same concern or lack of concern should apply to the person completing a short course or a terminal occupational program.

Students transferring from one institution to another or from one academic discipline to another are not true dropouts so long as the transfer is planned well and is in the best interests of the individual.

Where, then, should there be concern for the dropouts?

One group of dropouts with which educators should be interested is the group dropped for academic reasons and not allowed to transfer to some other educational institution or discipline. The chief waste here is in those individuals who are underachievers--the individuals who have potential but who do not perform up to their ability level for reasons such as lack of motivation, good teaching, good guidance, encouragement to enter the most appropriate discipline, or good health care. For such dropouts, the responsibility falls not only on the individual but on educators and society itself.

A second general group of dropouts, whose departure should not be taken lightly, is made up of persons who leave for health reasons. Some might not have needed to withdraw if the health difficulty had been diagnosed early and remedial measures taken, including reduction in the academic program and proper relief of situations creating anxieties.

The person who leaves college due to lack of finances but who has the potential for academic work needs our help. Society has a responsibility to this person for, insofar as possible, equal opportunity should be provided to all, irrespective of family success, race, creed, or national origin.

Students who conclude college careers due to death ordinarily are not thought of as a dropout group. Yet, among these are persons who commit suicide and persons who lose their lives through accidents, possibly avoidable. Psychiatric care might have salvaged the former;

student service programs, the latter. Can the institution and its personnel feel secure if educational services directed toward the prevention of these types of dropouts have not been given?

Some of our best minds are lost to educational institutions through marriage. While recognizing the "trend" to earlier marriage, we believe the college educated woman is an asset to the family and her education as well as her husband's education are important to society.

While not technically collegiate dropouts, individuals academically talented but who fail to enter college comprise a group which may represent a reduction in educated manpower. It is a national tragedy that these persons are lost to the educational scene.

Finding the numbers of students who leave college and the reasons for such actions has attracted the attention of many researchers. (A bibliography of selected writing in the field appears as Appendix B.) Dorothy Knoell, who for a number of years has studied the literature and undertaken research in the field of college attrition, has assembled a few generalizations on the findings of some of this research.[1]

1. About half the students who enter our colleges as freshmen drop out at some point during the four-year period following their initial enrollment. Fewer than 40 per cent graduate four years after admission.

2. The average rate of attrition has been found to be quite stable over the past 40 years in a considerable number and variety of studies; however, a considerable amount of variability has been found among different types of colleges studied at any one time, particularly between public and private universities.

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[1] Dorothy Knoell is Associate Research Psychologist at the Center for Higher Education, University of California. The generalizations are from her paper in Part II of this report.

3. Both the underlying and self-reported causes of most college dropouts are multiple.

    a. At least one-third of the dropouts have had academic difficulty in college (and often earlier); however, the percentage which was forced by the college to withdraw because of poor scholarship is not known.

    b. Personal and family finances are probably one of the three most important factors in attrition, at least from the students' viewpoint.

    c. Illness and injury account for only a small percentage of the dropouts although these factors may be contributing causes.

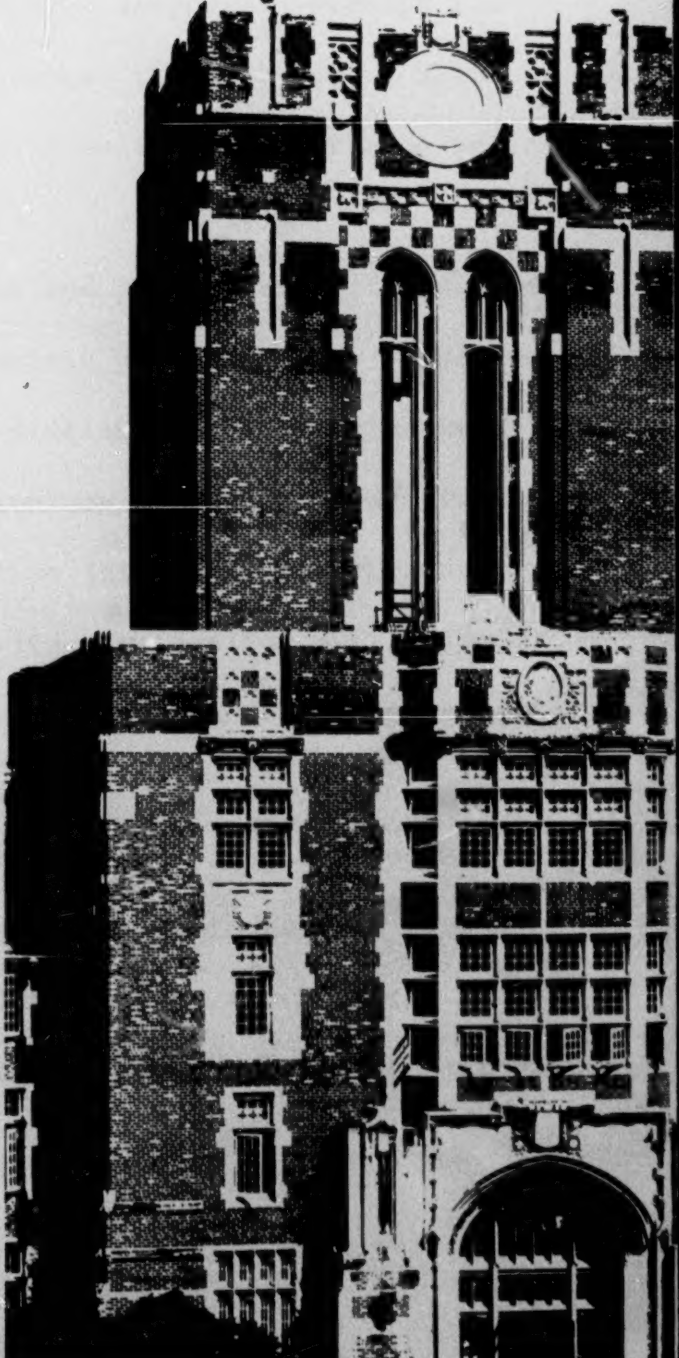
    d. Factors related to motivation and adjustment to college undoubtedly are more critical in the student's decision to drop out than other, more obvious reasons. However, our present knowledge of student values, goals, interests, and other non-cognitive traits is woefully inadequate to the task of gaining insight into the phenomenon of attrition.

4. Attrition occurs among both good students and poor--students with a good prognosis who earn good grades but drop out anyway, those with a poor prognosis who do no better than expected, and those who should have succeeded but did not. Both individual characteristics and institutional factors appear to be necessary foci in the study of attrition, as student input, educational process, and outcomes or payoff.

If Knoell's generalization concerning the attrition of good students is true--and there appears little evidence to refute it--the phenomenon should be of interest to college faculties and administrators. Since the policies and procedures of a college doubtless play some part in encouraging patterns of dropout or persistence among the students, we shall now turn to a review of institutional operations and college dropout.

PART 1
PROCEEDINGS

SECTION A
INSTITUTIONAL POLICIES AND PROCEDURES WHICH ENCOURAGE WITHDRAWALS AND DROPOUTS



SECTION A: INSTITUTIONAL POLICIES AND PROCEDURES WHICH ENCOURAGE WITHDRAWALS AND DROPOUTS

The college community which believes that withdrawals and dropouts are a concern might best begin to attack the problem by putting its own house in order. While they are rarely considered, the policies and procedures, the goals, and the organization of an institution may create conditions favorable for causing unusually high proportions of students to withdraw prior to the completion of an academic sequence. This situation occurs quite frequently, especially in institutions in which groups such as the faculty, the administration, the Board of Trustees, and the Board of Visitors have little interest in the problems of dropouts. Perhaps the first question which might be asked in a college, therefore, is: What graduation-dropout rate is acceptable for this college and where do we stand in relation to it?

In considering institutional policies and procedures, efforts need to be made to obtain rapprochement to the extent possible among faculties, administrators, and trustees in order that similar goals and objectives for the educational program of an institution may be developed and followed. Having established policies and procedures, an institution should develop honest and straightforward information for its catalogs and similar documents on such matters as costs, entrance and graduation requirements, and educational and social conditions.

There are institutions in which little thought is given to whether or not objectives are realistic and whether or not there is need to change the institutional environment. These are institutions in which the student is expected to fit the institution--all change is one way--the student must adapt. These are institutions in which the change that evolves is based primarily upon subjective judgments and not upon policies and procedures developed through the most objective research possible.

Since students comprise the core of most educational institutions, policy changes do affect the student body, and rightfully should. Policies and policy changes, therefore, should be evaluated from time to time and the findings reported to all members of the academic community. Thereby, we have some assurance that the products or results of policy changes are known. Economy based on decreasing student services rarely proves wise. Saving of dollars by not evaluating programs can be costly.

Some institutions rapidly adopt novel ideas such as calendar revisions and changes in grading standards. It can be expected that in the institution insisting upon year-round attendance there will be, at least initially, an abnormal number of dropouts. A similar condition arises where particular instructors pride themselves upon failing a high proportion of students, not recognizing, of course, that a high failure rate may be strong evidence of an inadequate instructional program. If curricular patterns are made more stringent and are changed rapidly, and if currently enrolled students are expected to meet the new requirements, some students will be "forced" to leave or will be required to spend additional time in obtaining credits for graduation.

If an institution insists on complete academic and personal conformity, there will be problems created by the nonconformists. Individual differences must be recognized. In the absence of reasonable regulations, students will withdraw.

A college or university which has poor communications with feeder high schools, or has a poor college-to-college cooperative program and understanding, or makes an erroneous portrayal of the institution to the prospective student can expect student withdrawals to be high. If admission selectivity is weak for an institution with high academic standards, a large number of academic drops should be expected. If, as a means of attracting students, loan and scholarship programs are geared almost entirely to freshmen, it should not be too surprising when upperclassmen withdraw due to financial difficulties.

At a time, such as the present, when gift and grant funds are quite readily available, it is attractive to the administration to build the institution and its reputation on these funds. It also is attractive to support highly public service and public affairs programs. But if a balance is not maintained between teaching, research, and public service, the student suffers. If teaching is relegated to an unimportant position, one can hardly expect that students will either achieve well or will have the desire to remain at the institution long.

All institutions have some withdrawals and dropouts. Colleges without adequate programs of communication with students who have dropped from school, and those which do not provide the student with an adequate knowledge of how to seek readmission will find that many withdrawing students will be lost to the institution indefinitely. Institutions which do not make a real effort to discover the reasons for dropout can hardly expect to remedy the attrition pattern.

A starting point, therefore, for research on dropouts is to review the policies and procedures of the institution to determine if the image presented to prospective and actual students is similar to actual conditions which are found in college classrooms and other campus activities. Turning now from the role of educational philosophy in attrition, the next section of the Proceedings reviews some of the warning signals given by a potential college dropout.

SECTION B

EARLY WARNING SIGNS OF DROPOUT

SECTION B: EARLY WARNING SIGNS OF DROPOUT

The potential dropout at times demonstrates certain characteristics which warn that something is amiss. In spite of extensive work with pre-entrance testing devices, high school grades, and other known characteristics, the successful and unsuccessful (as far as a degree is concerned) students cannot always be identified--if located at all. While encouraging continued experimentation with predictive aids, we suggest that a student's conduct frequently provides some clues.

An alert housing or residence-hall staff comprises one of the best agencies for spotting students who are having trouble--and thereby are likely candidates for dropouts. Such personnel, by observing and reporting on certain seemingly small items, can be of real assistance. For example, irregular eating and sleeping patterns often indicate trouble. Of course, poor study habits usually preceed failure. Absence from class is another sign of student disinterest or dissatisfaction which almost always leads to something other than a satisfactory grade.

The participants had some fun in describing the characteristics of a person likely to leave college. Consider a mythical student with the following characteristics: 18 year old, male, applicant for engineering, from the upper 20 per cent of his high school class, with College Board scores of Math 600, Verbal 400. Conferees suggested that the following composite of traits would almost certainly produce a dropout:

1. Has a relative who works in the field of engineering.
2. Likes to tinker with cars.
3. Scores better in practical categories on tests.

4. Has higher test scores than one would predict from high school grades.
5. Lives at home and commutes 40 to 60 miles a day.
6. Was recruited by an alumnus of college.
7. Has little interest in humanities.
8. Works 15 hours a week in a part-time job.
9. Was a member of a small high school graduating class.
10. Transfers from junior college to senior engineering college.

Such a student, in our opinion, would have one chance in ten of graduating.

The warning signs of dropouts discussed thus far assume that something is wrong with the student. If the student will only change or make certain adjustments, all will be well. A small but annoying feeling exists, however, that the problem may not be completely "they" (the students) but may also be a result of attitudes or behaviors by members of the faculty who present the material so poorly or inappropriately that certain students fail to grasp the essential facts and quickly fall behind to become dropouts for a multitude of apparent reasons which may be unrelated to the real reason. Extensive complaints from a student, therefore, about real or imagined grievances concerning professors, courses, or related items may foretell withdrawal from the situation.

The possibility exists, also, that the dropout is one who for some reason fails to adjust to the credit hour, grade game which is required. In a system where grades are substituted for real learning and required courses represent a great barricade to be surmounted, apparently some students either fail to catch on to the rules or do understand them but find the prize, that is the diploma, an insignificant attraction. The orientation program, the counseling service of the college, and the faculty advising system can go a long way toward helping students understand fully the requirements for remaining in school and for obtaining a degree. A question, therefore, which might be explored further: to what extent is dropout a result of inability on the part of the student to face reality, reality being college rules and regulations and faculty requirements in courses?

We suspect that the potential dropout probably reveals this penchant some time before he actually drops out or even appears for help at the dean's office. Many deans believe that by the time they see a student it is too late; others believe that a student who goes so far as to seek out the dean is a good candidate for salvage. At any rate, it is the general consensus that if research can provide the means of early identification of potential dropouts, a reduction in the number who leave the institution can be effected. Since the identification problem remains and may never be solved absolutely, it becomes important to look at other aspects of why students leave and some of the things which might be done about them.

SECTION C

POTENTIAL AVENUES TO THE REDUCTION OF DROPOUTS

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During the course of the Conference, a number of suggestions were made as to procedures or techniques which might be useful for reducing the number of dropouts who are of educational concern. Most of these ideas have been tried somewhere and found successful, although some have been found unsuccessful in certain situations. It is not always clear whether precisely the same procedures have been found both helpful and useless; much more research, and better controlled research, is needed and should be encouraged.

Counseling, Orientation, Recruitment, and Related Matters

One avenue which seems too long neglected in practice, though preached *ad nauseam*, is the provision of extensive, fully-professional counseling services for college students. Counseling services, which are widely recognized and acclaimed as essential, frequently receive little support financially or otherwise from a college. It is not sufficient merely to label a faculty member, with little or no training in this area, as a counselor. In fact, the well-intentioned amateur counselor may do more harm than good. We believe that the provision of adequately-staffed counseling services manned by fully-trained professional personnel with complete occupational information, testing, and other supplementary facilities may be an effective way to reduce the loss of students who really should continue their formal education. If counseling services are inadequate in terms of available and qualified staff, students who could be salvaged through testing and counseling which directs them toward the curriculum in which they might be successful can easily be lost to the campus.

In some cases whole "cells" of the student body may withdraw unless efforts are made to encourage continued attendance; the "clique" frequently follows the leader, and as the leader becomes discouraged and withdraws, his peers have a tendency to do likewise.

Hand-in-hand with the counseling function should go a good faculty advising program. Students like and respond to faculty advisers who appear interested. The wise adviser recognizes the student's strengths and weaknesses and makes every effort to see that his potential is used even though it may mean the loss of the student from the adviser's own discipline.

One of the greatest problems with students who are potential dropouts is getting them the right information at the right time. An approach now being tried in one institution is the development of a juke box type arrangement in a residence hall. From recordings the student can obtain information on such topics as how to withdraw from a course, study hints, academic continuation information, and encouragement to seek help from faculty advisers or the counseling center. While there may be problems of depersonalization associated with such a device, it may also get the student to the right person at the right time.

Some students who leave college apparently do so as a result of a poor initial choice of college or curriculum. Colleges can and probably should go to greater efforts to make it easy for students to transfer or to change curricula after an error has been recognized. The conferees, however, believe that it is important to design procedures to get the student into the right academic situation in the first place. Better counseling in high school is one obvious need, but colleges could also help by more honest and informative recruiting and by offering counseling services prior to entry and to students other than those who are expected to apply to the particular college. Colleges could do much more than most now do in disseminating information to high school and to other counselors about the kinds of programs, objectives, financial aid available, and academic potential required. High school and other counselors could be given the details of admission procedures, including the equations used for predicting academic performance where such are used, so that they could do some of the screening and sorting of applicants in the context of the counseling atmosphere instead of letting it be done later by the guardian of the academic gates or ivy halls.

Cooperation between colleges and high schools might be aided by developing special handbooks for high school counselors and principals, bringing high school representatives to the campus, and perhaps even more important, getting the college teaching faculty into the field for brief visits in high schools. Discussions to develop such programs are being pursued by the American Association of Collegiate Registrars and Admissions Officers and the Association of College Admissions Counselors.

There is some evidence that a student's expectations about his performance in college are systematically optimistic. That is, students expect to do much better in their college work, on the average, than they would be predicted to do statistically, or than they succeed in doing when they enter college. For example, a large percentage of students in one institution predicted on entry that they would be elected into membership in Phi Beta Kappa while in actual practice, under the regulations of the Society, only 5 per cent or less could possibly reach this goal. There is a fine line of distinction here which we recognize but on which we want more information: What is the importance of a student's optimism and confidence in his ability to succeed, on the one hand, and the fact from a realistic standpoint that competition in some cases is such as to preclude attainment of a goal? Research to clarify the extent of this phenomenon and its causes and remedies may help reduce the frequency of dropouts brought about by the disappointment that must result from excessively great expectations.

As a rule, the exit or terminal interview is too little and too late to prevent a dropout. The conditions and thought processes which have led up to it cannot be changed, or if apparently changed, do not remain so for long. The exit interview, however, can serve several useful purposes, such as:

1. To ascertain with whom the student has talked and consulted during his stay as a student in order to find what steps and procedures are working and not working.
2. To allow the student to put his exit in proper perspective and to plant the idea that the step being taken is not irrevocable. In this connection an idea or two on intellectual activities outside college classrooms might be appropriate.
3. To help the student leave with a favorable picture of the institution and to know what steps might be taken should he decide to reenter at some later time.

College orientation programs have been with us for many years. Presumably they help make the student at home and help him get in tune with the institution. Yet, we usually provide them only for the freshmen who enter in the fall quarter--not for the student who enters in any other quarter or for the transfer student. While the orientation program discontinues when classes start, the problems it is designed to alleviate continue much longer and the student comes to find that the earlier discussion did have meaning. We think that orientation programs could profit from wise, sophisticated research, and, in particular, that there is reason to believe that orientation efforts which continue into the school year would be effective in reducing college dropouts.

Some reworking of the financial aid provisions in colleges may be in order if we seriously intend to reduce dropouts. While some institutions see little need for additional financial aid programs, others would like to be able to aid even the average student who needs assistance. Often financial aid is available only to the more able student while the average or weak student must earn his way by working. While it may be a novel idea for reducing dropouts, there may indeed be virtue in providing financial aid for the student of average or less-than-average academic potential instead of asking him to work for his keep during the time when he, above all others, needs to be studying. There is an element of inconsistency, if not insanity, in admitting students of low academic potential and then expecting them to spend more time than others in activities other than study. Experimentation with revised financial aid procedures aimed at reducing dropouts may provide dramatic and direct results.

It appears that many students come to college without having learned many of the techniques that are used by others to achieve success. They need help with the basic procedures and "knacks" of being productive in this demanding situation. Such simple matters as careful planning of programs so that requirements are met without overloading during any particular term, learning the importance of neatness, completing assignments on time, classroom participation and courtesy, etc., can be taught. Some colleges find that training in study procedures are quite useful, especially during the freshman and sophomore years. It may be that experimentation with new approaches to teaching such procedures will result in improving the climate for greater learning. One possibility would be to encourage students in teaching each other or for upperclassmen to teach lower classmen these techniques.

In assisting an individual to adjust, one helpful aid is to get the student to see clearly his relationship to the college community and his reaction to it. The student needs to be made aware of the fact that the problems he faces do not rest entirely with the institution or other forces completely beyond his influence. He needs to look at his own makeup, his study habits, his social habits, his motivations. In order to get the student to face facts, it may be necessary to encourage him to organize his thoughts and review his activities. Perhaps it is possible to correspond with freshmen who are good or bad risks for graduation on their reactions to school in general. We might ask students to undertake diary type assignments which require the writing of a few sentences each day. Such diaries, which might be helpful to students placed on academic probation, might reveal clues to reasons for dropout and persistence and cause the student to consider the learning of study habits and related matters which must be acquired in order to complete college successfully.

Transfer

Closely related to counseling services are provisions to allow the student to make a change in a major or in a college, if such change seems appropriate. The development of a college division in which a student can enroll while working through a personal problem, such as a change in life goals, has been found to meet with apparent success in at least one institution. Clearly, colleges often make the switching of majors and the changing of institutions altogether too difficult, damaging, and costly for the ultimate benefit of education, and probably for their own immediate benefit as well. A system which enables the student to remain enrolled and to continue formal academic experience in some field or fields while he is trying to gain or to regain an educational objective should be expected to reduce greatly the occurrence of certain types of dropouts.

The fact that a student changes his mind about a field of study is not evidence _per se_ that he is a poor student. It is difficult to determine at times whether the student has lost interest and therefore his grades suffered or whether the student could not absorb the material and consequently lost interest. In any event, colleges have faced the question of internal transfer in a variety of manners. A college at the University of Wisconsin, Madison campus, allows a student desiring to change from that college to another to take a battery of courses in the college to which he wishes to transfer and if successful to make the move. The student, therefore, actually remains a term or two in the old college but does not necessarily enroll for any courses in it.

The University of Wisconsin-Milwaukee and Milwaukee Institute of Technology have a cooperative program wherein a student doing poorly at the University of Wisconsin-Milwaukee can transfer to the other institution. If the student performs satisfactorily, he may transfer back to the University of Wisconsin.

Remedial Work in Preparation for College and On-Trial Admission

Giving remedial course work to certain entering students in order to bring them up to acceptable academic standards for the institution may help reduce dropout. This practice is frequently opposed by faculties. Arguments for and against may be summarized as follows:

1. For remedial work--since certain preparatory schools are weak, students must have some special preparation if they are to succeed in college. Also, such work gives students another chance; if they drop out at least the college and the individual have tried.
2. Against remedial work--since preparation for college level work is the responsibility of the student and the high school, the college should establish a standard which causes the student and the high school to reach up academically. Also, remedial work often is of no avail. If it is not offered, unqualified students will not enter.

In any event some schools believe it necessary to give remedial work. Parsons College has such courses, as does Knoxville College. Knoxville College is experimenting with bringing in students prior to the regular fall quarter for remedial courses featuring programmed learning materials.

Perhaps research can reveal the kind of pre-entrance course work which will be effective with specific groups of students. In particular, we believe that more evidence is needed on the effectiveness of remedial work for students who come from environments which are socially, economically, or educationally depressed. Dropout may be particularly severe among students from such environments, and dramatic reductions may be possible through extended and demanding programs of remedial course work.

Remedial programs are somewhat related to "on-trial" admissions now being tried in such institutions as the University of Maryland and The University of Tennessee. The University of Maryland has a special program for students whose academic qualifications are questionable. Prior to the initiation of this experiment approximately 85 per cent of students in an academically low qualification group withdrew. The University decided to admit such students during the summer to take two college-level courses, participate in special counseling on study habits and attitudes, and enroll on a voluntary basis in a reading improvement course. The program has resulted in about half the students who enter it being eligible for enrollment in the fall quarter. Once enrolled in the fall, this group of students performs similarly to other students. The "trial" admission program gives students a chance to succeed and at the same time allows students who cannot make the grade to get out easily and quickly in time either to enter a college which may be better suited to their academic ability or to reappraise the need to enter college at that particular time.

Grading Practices

Repeatedly the conferees raised the point that not all members of a college faculty are sophisticated about the measurement aspects of their grading practices. It is found nearly universally that as admission standards are raised, the standards demanded for grades also are raised, sometimes more than enough to keep the average grade at about the level of C. Usually the faculty members do not even realize that this is taking place, and when it is pointed out to them, they neither believe it nor know what to do about it. Of course, this kind of grading behavior does not reduce the proportion of dropouts that higher admissions standards might be expected to achieve. In fact, by increasing frustration it may even increase the level of dropout of students in good, though borderline, academic standing. One step toward alleviating this problem might be to ask faculty members to reach a decision, as a group, on the level of academic-failure rate which they believe to be sound for their institution. Experimentation may provide reasons to review the academic-failure ratio; the effects of changing the ratio (either higher or lower) might lead to worthwhile results--at a minimum, it would cause lively activity and debate in the academic community.

This matter of grading practices may be among the more serious and important aspects of the dropout problem. One wonders why it is that in most medical schools it is the tradition that students once admitted are expected to graduate and the faculty actively seeks to aid them in reaching that goal--indeed, most of the students do survive. In other programs, such as law, which tend to draw equally-able entering students, much lower rates of survival prevail.[1] The crux of the issue is the faculty's attitude toward grading. There remains too much dependency on the fallacious magic of grading "on a curve." It is difficult to change the attitudes of members of the faculty, and perhaps faculties are right to want ever-higher standards of achievement. Factual information and careful research should provide a basis for faculty discussion of the question of grading standards. Evaluation may provide the key to a more realistic approach to grading.

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[1] We, lacking evidence to the contrary, assumed that the students were approximately equal. Some good comparative surveys of achievement potential of entering law and medical students would be helpful.

The process of continuing to meet academic continuation standards to remain enrolled may be called by various names, for example, readmission, but the basic point involved is whether or not students make satisfactory progress in academic work. The student needs to know the consequences of academic failure and ways of getting back into school if dismissed for academic reasons. The college should make suggestions to the student on books to read or studies to pursue while away from college; correspondence courses, for example, might be taken.

Some colleges are experimenting with forced separation, requiring the student to remain out of college for some designated period before returning to continue his program. Further study of the merits of this technique as a curb to dropout, to improved scholarship, or to accomplish whatever the objective may be, is in order, although it is admittedly difficult to experiment with on a controlled basis.

In the past there apparently has been a belief that by placing students on academic probation they were thereby warned that academic difficulty loomed in their future but that it could be avoided by diligent effort. There was little acceptance by the conferees of the notion that probation was a useful procedure in the reduction of dropouts. In fact, its effectiveness for any useful purpose was questioned. Research directed to the discovery or development of some sort of effective interim warning for students about to pass into the academic nether regions, however, is in order. It appears that more is needed than a mere warning. Again, this will probably require extensive study before a "paying" procedure is found or colleges are convinced to drop the useless exercise of probation.

Somewhat related to meeting academic standards and grading is the question: How difficult is it to pass a course when it is repeated? Another broad area of study which is in need of exploration is the question of the effectiveness or the results of failure. To what extent is failure good or bad for the individual; how much failure can be tolerated by the individual; what values, if any, result from college failure?

Other Factors

Many students who leave college report they feel that they might have continued if they had been able to develop closer ties with at least one faculty member. Yet, it often seems that the students made no attempt to develop such contacts, and often the faculty involved in such complaints seemed to be quite interested in students and easily approached by those who tried. At times the complaint of lack of faculty interest and contact is superficial and perhaps is a disguise to avoid the discussing and facing of other problems. Yet, in the long run, research aimed at delineating the nature of these complaints and what to do about them may be productive and should not be discouraged, though it may not yield much in the immediate future.

In one university it was reported that athletes withdrew less frequently than other comparable students. This leads to the suggestion that there may be non-academic satisfactions or peer-group structures which can reduce dropouts without damaging academic performance. It has been observed occasionally that groups of students who associate together drop out together. Perhaps research directed at the discovery of procedures to develop extra-class loyalties and interests can reveal ways in which such activities might be turned to the worthy purpose of reducing dropouts.

There is some evidence, though not entirely clear yet, that certain calendar organizations of the college are more likely to promote students' continuing through to the granting of a degree than other calendar patterns. New calendars, such as the trimester, are now being used. Comparisons of dropouts between such plans and the quarter and semester plans, with the best controls that can be made of relevant factors such as aptitude, may direct our thinking to the reorganization of institutions toward the reduction of dropout. Some colleges may move toward providing more of their courses during each term so that the residual dropouts can easily return and resume their collegiate careers. Course reorganization in which courses stand as individual units rather than being closely tied to prerequisites may make it easier to reenter a college. Much of our thinking about the organization of the collegiate institution would probably be revised if we recognized the fact that the typical college student no longer enters in the fall, remains in continual attendance through four years, and then graduates. Would we have the same kind of organization if we designed a college to fit the majority of our students--those who leave for varying periods of time at least once before graduation?

Members of a faculty or administration, who want information on the educational and social programs of their institution, might talk informally or formally with the best authorities: namely, the graduates, the dropouts, and the current students. The person brave enough to undertake such a mission should receive a world of information on his college, and some of it might be useable in reducing dropout.

The conferees agreed repeatedly that the science of psychology must advance before some of the basic problems of alleviating the frequency of college dropouts will be understood or solved. Much appears to hinge around the frequently discussed concept of "motivation," but little of practical value is known about it--how to measure it with reliability and with validity, and how to change it with dispatch. Therefore, although motivation may be important, it is difficult to determine that the dropout is due to "motivational factors."

Finally, we suggest that the best avenue for reducing dropouts, especially dropouts with which the college should be concerned, is to make the educational and campus conditions so exciting that the student would not dare miss the next installment or next chapter. Exciting teachers who aid students to make new discoveries and to want to learn could go a long way toward encouraging students to press for additional education.[1]

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[1] For more on the topic of improved learning and teaching see Jerome S. Bruner, The Process of Education (Vintage Books, New York [c. 1960]).

SECTION D

AIDS FOR THE PERSON WHO HAS LEFT COLLEGE

SECTION D: AIDS FOR THE PERSON WHO HAS LEFT COLLEGE

Academic Difficulty

The student who leaves college as a result of academic probation or expulsion may experience difficulty in entering another institution. First, another institution may not wish to take him. Second, the person having experienced academic failure may lack confidence in his ability and be reluctant to enter what may be an unpleasant situation for a second time.

Evidence is presented by Eckland that dropouts and transfer students, if given the opportunity, often persist long enough to attain degrees. He finds in a survey of male students entering The University of Illinois in 1952 that 24.5 per cent of the entering class left but returned to Illinois or other colleges either to graduate or be actively enrolled while another 10.8 per cent returned at least once but failed to graduate.[1]

The entire issue of whether or not a person can succeed in a different institution after failing or doing poorly initially is open to careful study. There is a tendency today to put as many barricades in the way as possible. The student frequently must have higher grades to transfer than the currently enrolled student in a like classification. At times the past record attained is carried forward as a cumulative grade average which makes it extremely difficult to meet minimum readmission or probation standards for remaining in school. It should be possible for a student to declare educational bankruptcy to the extent that a former average or courses no longer needed might be withheld from academic grade point averages or similar standings until the person has had an opportunity to pass the new work. For example, the University of Maryland allows students transferring from one college to another within the institution to drop grades out of their average which would not apply in the new curriculum. An F, if present, remains on the record, but it may be eliminated from the cumulative grade point average.

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[1] Bruce K. Eckland, "College Dropouts Who Came Back," Harvard Educational Review, XXXIV, No. 3 (Summer 1964) p. 405.

A recent step to assist the dropout has been taken by the Catholic College Admissions Center. This Center, as part of its program, corresponds with students who have left college in order to interest such persons in preparing themselves and then re-entering college. Finally, the Center helps the dropout find a college which is willing to take him.

Recognition of Accomplishment

Perhaps American higher education should assist the dropout by giving some token recognition to a student's accomplishments. At present, the student who lacks the dissertation on a doctor's degree, or a year on an undergraduate degree and who fails to finish receives no formal recognition for accomplishment. We suggest, therefore, that any student who leaves a college in "good standing" might be given a certificate of accomplishment for work completed; for example, a certificate for three years of successful work, or successful completion of 90 hours past the master's degree, or some similar title. The certificate would not replace a degree but it would provide some satisfaction to the holder and to employers. The granting of certificates, however, really skirts the central issue--the inability of employers, and at times the individual concerned, to distinguish between a degree and an education.

College placement offices usually make an effort to place persons who have received a degree (or are close to it). While we would not want to encourage students to leave college before the completion of their educational goals, not all students complete degrees; recognition of this fact should be made by the placement office and efforts should be made to place non-graduates.

Follow-Up of Dropouts

For the most part, colleges and universities know how many students fail to return the next term or year but, other than that, little or no attention is paid to students who simply fail to re-register--those who have not "officially" left during a quarter. From an educational standpoint, not to mention the public relations involved, a letter to such dropouts encouraging them to keep an interest in scholarly pursuits and suggesting that they write for help or assistance in returning at some future date should represent a minimum effort on the part of a college or university. Even in the case of a student expelled for academic or disciplinary reasons, a helpful letter on what might be undertaken in the way of preparation for a re-entry to college--if such a step is possible--might be of assistance.

Dropping from college may prove a wise choice; in fact, it may be the only choice for an individual. The person who leaves needs to be helped to put failure to continue in college in proper perspective and to view college as one of several educational experiences.

Continuing education for adults through night-school courses and correspondence courses can aid dropouts, as well as other qualified individuals, in obtaining more formal education. Many colleges strive to give such course work. But whenever possible we believe a student should continue in regular college environments and that more research, such as that discussed in the next Section, needs to be undertaken to assist both colleges and students.

SECTION E

IMMEDIATE AND LONG RANGE STUDY

SECTION E: IMMEDIATE AND LONG RANGE STUDY

Census Type Studies

In order to keep the magnitude and nature of the dropout problem in focus, periodic reassessments of its scope on a national basis are essential. For convenience we have used the term "census" to denote such studies. Principally, the effort would be to count or take a census of the numbers of dropouts in each of several categories. Over a given time trends might be observable. Without such census type reassessments, it is easy to overdramatize the total problem, or specific aspects of it, thereby misdirecting the attention of the public and researchers.

There has not been a national census of attrition and retention in college since Robert E. Iffert's classic study of the 1950 entering freshman. At present there is no national effort underway or being planned, insofar as could be ascertained among the conferees, to repeat his study. Since several states or institutions will probably be conducting census studies for their own purposes in the near future, it would prove most helpful in allowing interpretations to be made if the data collected by individual institutions or states have comparable bases or structures. The conferees spent some time, therefore, in trying to develop a minimum framework which might be used in any such study and which would thereby permit the comparison of figures from one analysis to another.

The basic differentiation in a retention or dropout study is, of course, whether the person who has once entered college is still enrolled at any particular time. Whether "in" or "out" of college is the fundamental question. It should be recognized, however, that in and out are, more often than not, temporary classifications for college students. Since the majority of an entering class usually requires longer than four years for graduation, a nationwide set of census figures, or sets of figures, which will be most useful for inter-institutional comparisons should attempt to include the experience of individuals over a period of time of at least 7 to 10 years after initial entry into college.

At each term during the period of the follow-up, the subjects of the study should be categorized as "in" college or "out," and in the latter case additional categorizations are important. (A useful categorization for the "in" group might be based on the part-time versus full-time dichotomy, but the dividing point between part- and full-time enrollment can be a matter of controversy and was not pursued in this Conference.) Three major items of information about the "out" group were considered essential as a minimum for comparability among studies. First, one group of dropouts leaves voluntarily though its exit is not required by the institution. Others leave involuntarily at the request or direction of the institution. Second, some transfer to other institutions, and others do not transfer during the period of the follow-up. Third, some leave during the term, and others at the end of the term. These three elements, we believe, are important in developing reliable information on the type of dropout occurring.

If the student is not in college at the conclusion of the follow-up period, he may have withdrawn of his own accord, or his departure may have been required by the institution. In either case his academic performance, i.e., his grade average, may have been good or poor. This categorization too has often been overlooked in retention studies. Among the students leaving college, though not requested to do so by the institution, are those who graduate, those who have medical disabilities or who die, those who temporarily attend other institutions (transient students), and those who depart to take up a wide variety of activities too numerous for separate classification. As a minimum the students in the above categories should be tabulated. If the student withdraws at the request of the institution, the principal subcategory to be noted in addition to his level of academic performance is whether his withdrawal was for disciplinary reasons, academic reasons, or otherwise.

In the past, census studies for individual institutions have ignored at times the fact that the student who withdraws in order to transfer was not a loss at all to higher education. Misleading data resulted. Several classifications are of sufficient importance to be noted carefully for those who transfer to other institutions. In addition to tracing a student to another college, information should be collected to allow tabulation of transfers according to the general type of institution to which they go. That is, more will be understood if we have data on the extent to which transfers tend to move from junior to senior colleges, from senior to junior colleges, from senior to senior and from junior to junior colleges, and from junior or senior college to professional or specialty school, e.g., drama, art, or music. Ultimate tabulations according to whether transfers of one type or another most commonly occur among students with good versus poor high school and college grades, etc., may shed important new light on transfer students.

In a census study which is meant to have the potential of contributing to knowledge on a broader scene than the immediate institutional context, there needs to be consideration of some of the temporal aspects of withdrawal. It is important to continue collecting information about the time during the college career when withdrawal first occurs, but it is also important to watch whether or not there is re-entry into college. Some dropouts return to the same institution; others enter new institutions; a few drift in and out of various institutions. It is most important that each individual be followed until the end of the period of the study or until he leaves without obtaining a transcript to enter another institution. It probably would be helpful if comparable figures from one institution to another could be assembled on the typical duration of the first, second, and third temporary dropout of the students who leave and then return.

To summarize, for each student information on the following main points should be obtained during each term of a census study and tabulated appropriately for the period of the study.

Model for Census Type Studies

The student is in college or out of college during the term:

A. Students Leave: Not Required by Institution
   1. Good grades
      a. Medical or deceased
      b. Graduated
      c. Transient (see additional categories in D Below)
      d. Other

2. Poor grades
    a. Medical or deceased
    b. Graduated
    c. Transient (see additional categories in D below)
    d. Other

B. Students Leave: Required by Institution
1. Good grades
    a. Discipline
    b. Other
2. Poor grades
    a. Discipline
    b. Other

C. Time Left--During or End of Term

D. Transfer
1. Junior (community) college to senior college
2. Senior college to junior or technical institution
3. Senior college to senior college; junior college to junior college
4. Junior or senior college to professional school
5. Delayed re-entry

E. Non-transfer
1. Re-entry--returns to same institution
2. Does not return to an institution of higher education

While the above tabulations are an essential minimum for generally useful census studies, there is an additional dimension which, if added, greatly increases the value of the data. This concerns the characteristics of the students in each of the subcategories of the above outline. Certain characteristics are more salient than others because of their importance and the soundness of their measurement. Eventually, of course, we hope and anticipate that the science of psychological measurement will advance to a level which will permit precise measurement of motivations and attitudes which may be as important as any variables now capable of measurement, but at present we recommend that the following traits of students be measured or recorded and tabulated in census studies. They are listed roughly in order according to our perception of their importance for inclusion:

1. Sex of the student
2. Measure of high school academic performance (rank-in-class or average grade)
3. Measures of academic potential upon initial entry into college (aptitude and achievement test scores)
4. Social class of parents
5. Health factors
6. College cumulative grade average, particularly at time of final withdrawal (including graduation) during the period of the study.
7. Age at initial entry into college
8. Percentage of high school graduating class which entered college
9. Marital status at time of final withdrawal (including graduation) during the period of the study
10. Race
11. Religion
12 National origin

Census or counting type studies of withdrawal, dropout, and graduation may supply information on three matters:

1. Figures which can be compared with those for somewhat similar colleges.
2. Data to evaluate change in policies concerning students. A change to a trimester system, for example, or a higher standard of admissions might be reflected in persistence rates of students.
3. Information for manipulation of the campus environment. The effects of requirements to live on campus or a new type of residence hall arrangement might be evaluated in part through persistence rates of students.

A National Census Type Study

The persons gathered at the Conference in Gatlinburg believed there was sufficient interest and demand for a national survey on college attrition to encourage steps toward initiating one. Of necessity, such a survey would be complicated, and provision would have to be made to keep records on students transferring among institutions.

Related Record Keeping

The various categories suggested for census type studies underline the importance of record keeping and the need for mutually inter-changeable records or at least definitions. The United States Office of Education has established an agency named Basic Educational Data Systems. This group, which is now working to establish certain definitions and to obtain data on faculty personnel, hopes to standardize terminology and methods of collecting data in order to simplify future surveys and aid the collection of information within specified categories. If the work with faculty personnel record keeping proves helpful and practical, a next step might well be the development of somewhat similar definitions for students. Definitions and standardization would aid greatly in tracing students who drop out or transfer.

One of the steps we believe helpful and feasible to improve record keeping, and thereby indirectly helpful in surveys on students, is the adding of social security numbers to a student's college record. Experience of those who have searched for students and found numerous instances of name changes resulting from coeds' marrying or changes resulting from students' changing names slightly when transferring from one college to another indicates that frequently records are lost--a situation which would be improved by use of a numbering system which was constant from one institution to another. The fact that the American College Testing Service is now planning and the College Board is considering the requesting of the social security number on score sheets in order to supply such a number along with the name to institutions receiving test scores is another indication of movement in this direction.

A step toward improved record keeping may well be a "data bank" arrangement wherein colleges within a state, region, or other allied configuration will join in collecting various essential elements of information on a student. Such a "data bank" would provide assistance to colleges worrying with the question of multiple applications, provide information on who has entered and where, and allow students to be located who transfer, graduate, and leave any given institution.

Research on Persistence and Dropout

The sense of the Conference is that institutional and national longitudinal studies of dropout-persistence rates (census type studies) are necessary and desirable in guiding long range action centered upon the most productive use of the national and local talent. Little effort has been directed toward investigations at the state level; more research at this level is necessary for intelligent state-wide determination of educational facilities and programs to meet the needs of the largest number of individuals who can profit from higher education.

As important as the long range study is the short range or immediate goal study. It has been long determined that the largest percentage of withdrawals, however defined, occurs at the college freshman level. It is at this level, too, that the primary application of principles, goals, and procedures of the institution are effectuated. The character of the institutional educational program and its effectiveness are related to the type of student who is eligible for admission and who chooses to enter. A new admission policy is voted; a change in curricular requirements is put into effect; a different academic-drop standard comes about. Any or all of these may affect the dropout rate. For wise and immediate planning, study is necessary. A study, for example, could be made of freshman classes before and after policy decisions in order that the results of such study might point toward further revision in requirements.

Conferees discussed other studies which might shed light on causes of dropouts. One approach, which to the knowledge of members of the Conference has not been the subject of investigation, is to search for information on why students persist or drop out of schools by following students from early high school careers through their college years. Closely associated with such a study of this type is the fact that the high school student who fails to enter college, but who apparently has the intellectual capacity for additional academic learning, really constitutes a dropout to education. How many applicants apply but do not reach an institution of higher education and what are the reasons for such decisions? During the Conference discussion brought out the fact that some withdrawal may follow a college's summer orientation program, but whether such attrition is helpful or harmful to a college or students involved might be reviewed.

Just as the high school student who fails to enter higher education might be considered a dropout to education, so also the student who has a bachelor's degree but fails to enter professional or graduate school is in one sense potentially a loss to society. Reasons why students do not enter graduate school, characteristics of those who do and do not, and a review of factors that tend to attract students to a given school were discussed during the Conference as potential questions for research.

The study of graduate school dropouts has generally been neglected. The neglect in part stems from poor, antiquated record keeping systems. The question, however, of performance of graduate students from an academic and from a completion-of-degree standpoint could stand review. The group questioned the scientific basis for graduate schools' failing to recognize transfer credits. While it is possible that some of the same problems exist in both graduate schools and in undergraduate colleges as far as dropouts are concerned, other factors may be present and may need to be investigated.[1]

Conferees repeatedly stressed the fact that the faculty of a college play a vital role in whether or not a student remains in college or leaves before obtaining an academic degree. On the one hand, more effort might be made to provide members of the faculty with information on educational evaluation and measurement. Review might be made of the philosophic assumption that failure-passing rates of students in courses somehow reflect superior (or poor) teaching. Studies might be designed to ascertain the objectives of the faculty, the student, and the administration and what effect, if any, variations in these objectives might have on dropouts.

A student's expectations of his college determine in large measure the satisfaction which he obtains from the experience, at least initially. His reactions to the type of intellectual-social environment and his academic classes are important to his success as a student. The effect of vocational versus liberal educational goals on the part of students and of their teachers still has ample room for investigation. What happens when the content of the curriculum differs from student's expectations of course content? Studies conducted on college environments (the "press" of the educational milieu) and expectations of students have attracted wide attention and should be continued. The works of Robert Pace, George Stern, and Donald Thistlethwaite[1] offer good starting points to other investigators. Educational Testing Service also is now testing a device to measure the educational climate of a college campus.

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[1] A recently reported study of graduation and attrition of students in one graduate school has been completed by Charles R. Wright. He attempts to ascertain graduation rates as well as to search for factors associated with success or failure in completion of a degree. "Success or Failure in Earning Graduate Degrees," Sociology of Education, XXXVIII, No. 1 (Fall 1964), pp. 73-97.

Students who have attained high academic success in high school may face serious adjustment problems when exposed to situations of a highly competitive nature. For example, the girl who is about to receive her first B grade in 13 or 14 years of schooling may suffer the same frustrations as the person receiving an F. The reactions of students who have prior records of successful academic performance when thrown into severe or heavy competition could be the subject of extensive investigations.

The highly intelligent or creative person's expectations may not be met by the courses or the curriculum to which he is subjected. While this Conference skirted the question of creativity as one that has been covered in other conferences and other literature, this type of person dropping out or withdrawing as a result of course content may be the one which should concern educators most.

One university, a conferee reported, found that students who transferred on their own initiative from one college to another within it performed better than students who had been counseled or warned that unsatisfactory progress made change necessary. Research might well be conducted on the effects of transfer, academic probation, and related matters.

The supposed attraction and motivational importance of earning a degree are open to question as is the assumption that educational goals and degrees are necessarily one and the same. A genuine inquiry into the extent to which every student is interested or truly seeks a degree might be illuminating.

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[1] For example, see Donald T. Thistlethwaite, "Recruitment and Retention of Talented College Students," (Report of a Cooperative Research Program under grant from the United States Office of Education) Mimeographed, Vanderbilt University, 1963; or "College Press and Student Achievement," Journal of Educational Psychology, L (1959), pp. 183-191.

The cost of a dropout to the institution might reveal interesting data. The loss of income from residence halls, the costs of admission, counseling, academic course work, letters written, and transcripts, all might be analyzed. (Costs might also be reviewed in terms of meaning to the individual and to the nation.)

The possibility of trying scholarships for "average" students who might otherwise be forced to leave school for financial reasons or to work received attention as did the need for loans and studies of student's views toward loans. Conferees cited studies which reveal mixed findings concerning whether or not financial need causes students to leave college. Based on these mixed reactions it appears that institutional and regional differences may be such as to make past generalizations about financial aid equivocable. Therefore, conferees suggested that financial need should be carefully studied to see how it relates, if at all, to withdrawal rates. The increased numbers and amounts of scholarships and loans should stimulate study of their importance in recruitment, retention, and graduation.

Investigation might be conducted of the extent to which rigidity of personality of the student makes it easy or difficult for him to adjust to new demands of collegiate life. Are social class, intelligence, and interest in grades related to adjustment?

Measurement of the achievement of withdrawals and graduates in several categories--economic, social, and continued intellectual awareness and development--the conferees suggested, offers the possibility for revealing studies. David Campbell, for example, asked various groups to take tests to measure knowledge gained from their own reading after leaving school. Campbell's approach could be expanded by measuring academic achievement in such groups as: high school graduates who did not enter college, college graduates, college dropouts, and students who have transferred from one college to another. Bruce Eckland has evaluated the effects of dropout and graduation on occupational and social class mobility among former enrollees in a public university, while Lawrence Pervin has investigated differences in earning power, divorce, and other characteristics of dropouts and graduates from a private university. Similar studies would be helpful; for example, are there differences in political activity, community spirit, literary interests, hobbies, and similar items?

Studies not directly related to college attrition may have a bearing on it. Research on anxieties of students, identification with father (mother), how a college student learns, and many, many others are possibly related.

Earlier in the Proceedings other suggestions for research and experimentation are presented. These include, but are not limited to, such topics as the following:

1. Grading practices and effects. The effects of failure, probation, or readmission should receive attention.
2. Admissions. Recruiting and admission policies for freshmen and transfer students need evaluation.

3. Searching for signs that a person is going to withdraw or drop out and seeking to modify the student, the environment, or both in order to prevent or to encourage this step. In this connection experimenting with terminal or exit interviews of students and corresponding with students who withdraw or drop out may be environmental changes of interest.
4. Ascertaining whether or not policies and procedures are known and more or less accepted by members of the campus community.
5. Identifying characteristics of students who graduate and those who leave college as well as those moving from one institution to another. Does social class, as suggested by Bruce Eckland, predict graduation better than other independent variables?
6. Undertaking curricular experiments to provide exciting and challenging courses--also improving the teaching and learning environments.

In short, let us make and evaluate changes in the college which might hold students who apparently have the academic qualifications for successful work.[1]

Important Sources for Starting Research Projects

Several authors and studies kept emerging in the Gatlinburg Conference as basic to the literature on college attrition and graduation. In the appendices of the Proceedings appears an extensive bibliography of materials in the general field. While many of the items mentioned in the bibliography are ably done, there are five writers whose studies should be singled out for special attention by researchers undertaking major studies on college attrition.

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[1] The paper by Dorothy Knoell in Part II of the Proceedings carries several ideas for research on college attrition.

The starting point for most research is Robert E. Iffert's Retention and Withdrawal of College Students. A report on a national survey, this volume provides normative data and information on characteristics associated with those who leave.

Donald T. Thistlethwaite has contributed "Recruitment and Retention of Talented College Students" to the literature as well as several articles. His study, containing an extensive bibliography, gives useful information on scales which measure various aspects of the campus environment.

A sociologist, Bruce Eckland, has written "A Study of College Dropouts and Graduates Ten Years After Matriculation, With Special Reference to Social Origins and Intergenerational Mobility," doctoral dissertation, University of Connecticut, as well as several articles based on the dissertation. Eckland, who stresses the necessity of allowing longer than four years in making graduation-attrition studies, describes ways to obtain a high response from a study-population. He suggests that social class predicts graduation better than high school performance, and he has also explored the relationship of the social class of parents, ability of students, and graduation upon occupational mobility and social class of college graduates.

Dorothy Knoell has investigated the transient patterns, successes, and failures of junior college transfer students and has contributed reviews of the research in college attrition (see Part II of the Proceedings for one of her papers).

A good summary of the issues involved in attrition-graduation surveys appear in a study by John Summerskill. His work provides insights on clinical investigations and mental health studies which have not been summarized elsewhere. Full citations on Summerskill and the other writers mentioned above appear in the bibliography.

In summary, we believe that adequate room exists in college attrition research for investigators interested in pursuing this field. The findings and changes within the academic community resulting from such findings and experimentations might have a significant impact on higher education in the United States.

SECTION F

ENCOURAGEMENT OF STUDIES

SECTION F: ENCOURAGEMENT OF STUDIES

Within the topics discussed at the Gatlinburg Conference are many which would produce minor and major research projects. The general consensus prevailed that unlimited opportunity exists for further research and experimentation and that such research is desirable. Such opportunities are simply underlined by the increasing complexities in colleges and universities resulting from more students who want to enter college and the policies and procedures which develop as a result of such enrollment pressures. The evaluation and the modification, if appropriate, of college climates for learning, admission, readmission, grading, and curricular matters should furnish a multitude of studies.

Information on studies within the general area of college dropout and persistence should be disseminated as widely as possible. Professional journals and publications such as _Clearinghouse for Studies in Higher Education_, published by the United States Office of Education, or _Joint Research Bulletin_ of the Association of State Universities and Land-Grant Colleges might be used in such dissemination.

Funds are needed for study on college dropout and persistence. Colleges and universities should have a concern for students admitted and should be willing to invest funds in research which might assist the students who enroll. Agencies of the Federal Government and foundations represent other possibilities of support for researchers who can demonstrate sufficient need for a study and the competence to carry it through to completion.

Greater faculty involvement with the problems of graduation and persistence and programs on this topic on local campuses or in national professional organizations seem appropriate.

SECTION G

MAJOR RECOMMENDATIONS

SECTION G: SUMMARY AND RECOMMENDATIONS

Not all students who enroll in an educational institution will obtain degrees. The participants in the Gatlinburg Research Conference on College Dropouts believe, however, that research and experimentation could produce some of the answers to questions associated with withdrawal and dropout.

Students who leave college without finishing should not be viewed with equal concern. For some, the act of discontinuing formal education may be a wise one. The dropouts which should interest educators are those students who leave before fulfilling their educational objectives or achieving to the limit of their academic potential. We should have a concern for the apparently bright student who withdraws or drops out for academic reasons, for students who leave as a result of financial difficulty, for marriages which cause dropout, and for failure of academically talented students to enter college after graduation from high school.

Good studies in college attrition, we suspect, may be designed on topics which at first glance appear unrelated to dropout. A summary of some of our thinking on research follows; however, we caution that the ideas are suggestive and not all-inclusive.

Research on college attrition can be categorized roughly in four parts. (Obviously, overlap exists.) These divisions are census, evaluative, analytical, and descriptive studies.[1]

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[1] These divisions are arbitrary. Hyman, for example, would define a census study as descriptive in nature with the other categories entitled explanatory. See Herbert H. Hyman, Survey Design and Analysis (Free Press, Glenco [c. 1955]).

1. Census Studies. Participants in the Gatlinburg Conference on College Dropouts recommend a national "census" type study of college graduation and attrition rates which would provide information on the numbers involved and some of the characteristics of the students included. Local studies of the same type also are needed. Census studies can provide a college or groups of colleges with guidelines on which to evaluate college procedures.

2. Evaluative Studies. Evaluative studies, we suggest, are those designed with control and experimental groups to measure changes which occur when variables in the college environment are manipulated for the experimental groups. If control and experimental groups are not available, as frequently happens, some data can be obtained by making pre- and post-checks on students involved with the program or policy proposed or enacted. In the Proceedings the Section entitled Potential Avenues to the Reduction of Dropout and the Section on Research listed some ideas for such studies. A majority of our suggestions, in fact, fell into the category of evaluative studies:

    a. Review programs and activities related to student personnel services. This might involve experimenting with the terminal or exit interview, reviewing the philosophy employed in dispensing financial aid and the effect of modifying such policies, changing traditional orientation programs, and getting students to seek assistance from an adviser or student personnel worker when needed.

b. Experiment with regulations concerning transfer within universities or between universities. A transfer student needs a chance to demonstrate whether or not he can pass in a changed curriculum or environment. What adjustments within an institution would allow a student to have an opportunity to try a new curriculum?

c. Ascertain the effects of sending a letter, or of making other follow-up, to dropouts suggesting continued intellectual activity and encouraging efforts to return to a college, if such a possibility exists.

d. Find whether or not remedial programs are appropriate within a given institution. There may be merit in them for students from schools or homes which are socially, economically, or educationally depressed. We need experimentation with special remedial programs in order to find out.

e. Evaluate, experiment, or assimilate studies on institution's admission standards.

f. Conduct experiments with the faculty advising system.

g. Review the need to develop and the ways to obtain personalized relationships between students and college personnel in large institutions. What are acceptable living and eating arrangements? What curricular changes should be made?

h. Make evaluations and review the purposes and the practices employed in grading. What grading changes, if any, result from new procedures, new standards, or new organizational patterns (for example, changing to a trimester system)? What is the relation between grades and economic or social success? At what point are admission standards considered high enough to eliminate students who will fail academically?

i. Evaluate academic probation, academic continuation policies, and "on trial" admission procedures. Does forced separation for academic failure benefit the student?

j. Develop and evaluate special programs for potential dropouts whose academic qualifications suggest the likelihood of academic success in college.

k. Strive to develop learning situations so exciting and stimulating that students want to remain in order to participate in such a curriculum.

3. Analytical Studies. Analytical studies, we think, encompass research concerned with reviewing characteristics of students, dropout trends, time of dropout, and a host of possible cause and effect variables. Exploration might be started or continued as follows:

a. Continue to search for ways to identify potential dropouts. Research might be directed toward predictive devices which improve predictions on academic success, dropout, or graduation. How can the faculty adviser system or agencies such as the office of the dean of students, counseling center, health service, or residence hall staff identify possible dropouts, collate information on such students, and get the data in the hands of the person who can best assist (or possibly not assist) the student who appears to be leaving the institution. How effective is the Omnibus Personality Inventory of the Center for the Study of Higher Education (University of California, Berkeley) or other measurement devices used in predicting academic success or persistence in college?

b. Collect and analyze information assoicated with withdrawal and dropout. When does it occur? What indications of discontinuance were given, and to whom were they given?

4. Descriptive Studies. Descriptive studies might include those which search to identify student values and changes in values, perceptions of students toward college courses and faculty, influences of the institution on the student, and, in short, various behavior patterns. Ideas for descriptive studies are enumerated below:

   a. Identify the expectations of students toward college courses and college life, and the perceptions of students to their college environment. Such studies might come before matriculation, after matriculation, and after departure from a college.

b. Search for changes by a student in his values, goals, or motivations after taking college work. In what ways can students be lead or taught to modify attitudes and goals?

c. Review the cost of dropping out of college to the person, institution, and nation.

    (1) What real educational and social differences exist between graduates and non-graduates?

    (2) What effect does failure to graduate have on the person?

d. Obtain data on approaches to use in encouraging or discouraging students entering highly competitive situations wherein few can achieve their expectations. Research might be directed toward assembling information on the disappointments associated with failing to reach the standards established by the student, his family, or his peers. How much failure can a student suffer and what are the consequences?

e. Study the results of differences and similarities in the professional-liberal education views of faculty and students.

f. Investigate recognition non-graduates should receive. What help should be given the non-graduate; for example, can and should the college placement service assist? What companies want non-graduates? In what work do non-graduates perform better than graduates?

Certain possibilities for research either fail to fit one of the above categories or can be placed in one or more depending on the research design. Attrition studies of students in graduate school are illustrative. Questions involving high school graduates might also be mentioned: Why do some apparently academically talented high school graduates make no effort to enter college? Why do some students apply but fail to enter college? Mental health problems of students might also be mentioned. Such topics might encompass questions on the future academic success of students who have left college as a result of mental or emotional illnesses, the contributions of psychiatric services to potential or actual dropouts, and whether or not mental illness is really occurring more frequently among students.

Research on college attrition needs the attention and interest of many members of the campus community. Opportunities for teamwork abound, for contributions to the research effort may be made by classroom teachers, registrars, deans of students and counselors, psychologists, social workers, and without doubt, many others.

Major Recommendations

Out of the discussions of the Gatlinburg Research Conference on College Dropouts certain recommendations emerged. The participants suggest that the entire area of college withdrawal and dropout is of sufficient concern to the individual, the institution, and the nation to keep the subject spotlighted through research and through the development of general information on the topic.

A national "census" type survey to obtain normative data on college attrition and graduation rates should be initiated. Regardless of the limitations and problems inherent in such an undertaking, the survey could go far toward providing information through which individual colleges might be compared.

The migratory habits of college students, the problems of multiple applications, the question of transfers and dropouts, all call to mind one pressing need--better record keeping systems. Conferees recommend that colleges and universities request enrollees to obtain a social security number for indentification purposes and to submit such a number as part of the application for admission. Such a step would assist in the establishment of a much needed "data bank" on students. A central source for information on where students have matriculated and graduated, an idea which now borders on the fantastic, may not be far in the future. Social security numbers and a "data bank" will go a long way toward assisting researchers concerned with college students.

College dropout studies and reports associated with such studies should distinguish between categories of dropouts which are, or should be, of concern and categories which are of little or no concern.

Since researchers undertaking institutional surveys on college dropouts may restrict their surveys to their respective institutions, the findings may be of limited value for publication in educational journals which want articles of wider or more general appeal. Such isolated data, however, may prove important and should be reported to the United States Office of Education for inclusion in _Clearing House of Studies on Higher Education_, to the Joint Office of Institutional Research of the Association of State Universities and Land-Grant Colleges, or to the American Council on Education. The scattered nature of existing studies make it important to recommend some critical reviews of existing literature and research methodology in order to begin identifying common factors.

Research funds should be provided from colleges and universities, and also from foundations and governmental sources. Even small amounts could go far toward assisting studies in this area. Interinstitutional studies, however, are needed and are fairly expensive to undertake. These larger studies need adequate support from non-campus organizations such as private corporations or the federal government.

PART 2

NEEDED RESEARCH ON COLLEGE DROPOUTS

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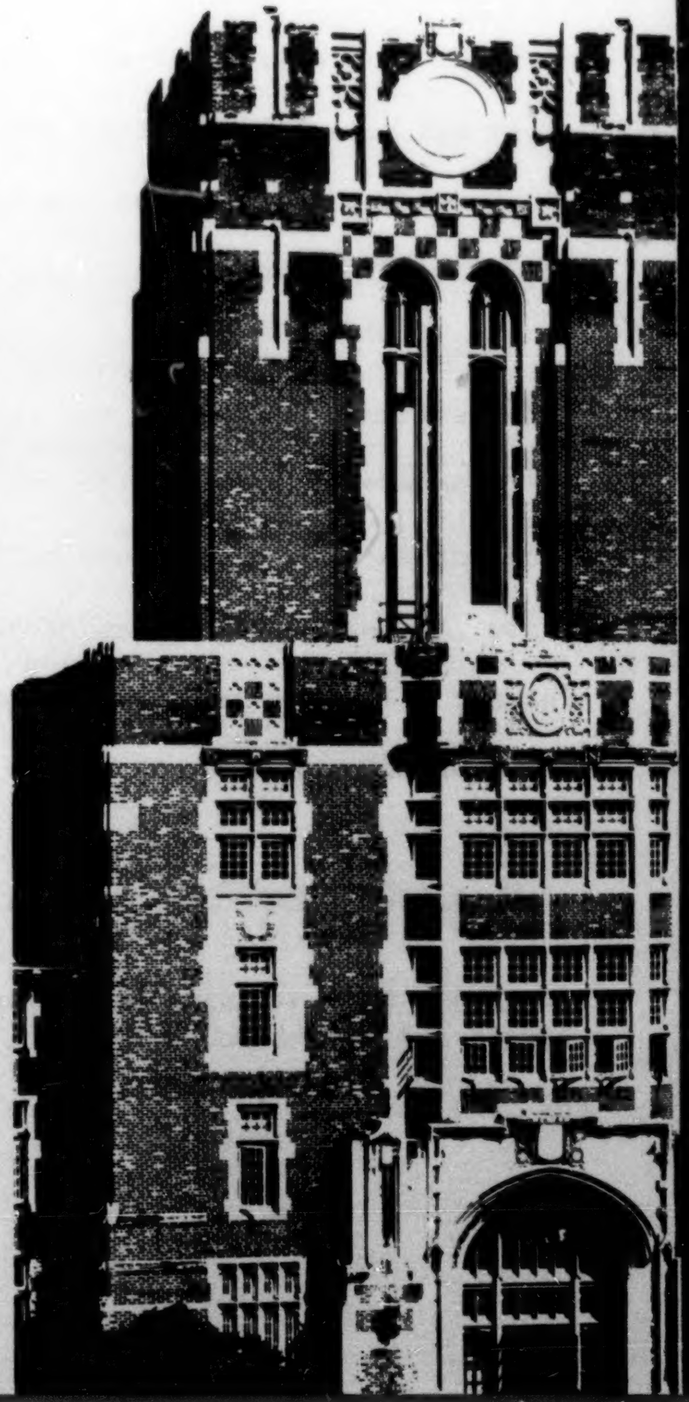

Introduction

An obvious (if unimaginative) way to begin a consideration of needed research on college dropouts is to examine the current state of our knowledge of the phenomenon. The questions which come to mind first are concerned with the incidence or volume of attrition, its variability in different types of colleges and collegiate sub-cultures, its relationships with both academic and non-intellective variables, the circumstances leading up to the individual's decision to drop out of college, and possibilities for reducing the loss of talent which attrition brings about. A second line of questioning leads to speculation about the recency of our knowledge, the validity of the operating assumptions which have guided past studies, the appropriateness of the techniques used, and, finally, to our evaluation of how critical the problem is in higher education in the 1960's, for the students themselves, for the colleges they leave, and for society.

The vast literature on college dropouts has been both summarized and analyzed quite adequately elsewhere.[1] Some new studies of note are being made at the Center for the Study of Higher Education and by others which should add to our knowledge of the phenomenon and techniques for studying it, mention of which will be made later. In the meantime, from previous studies the following very gross generalizations have been culled to serve as a foundation for the consideration of the need for further research:

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[1] Robert E. Iffert, Retention and Withdrawal of College Students. U.S. Department of Health, Education, and Welfare, Bulletin, 1958, No. 1. U.S. Government Printing Office, Washington, 1957.

Dorothy M. Knoell, "Institutional Research on Retention and Withdrawal," Institutional Research on Students, Western Interstate Commission for Higher Education, 1961.

John Summerskill, "Dropouts from College," in Nevitt Sanford, ed., The American College. John Wiley and Sons, Inc., New York, 1962.

1. About half the students who enter our colleges as freshmen drop out at some point during the four-year period following their initial enrollment; fewer than 40 per cent graduate four years after admission.

2. The average rate of attrition has been found to be quite stable over the past 40 years in a considerable number and variety of studies; however, a considerable amount of variability has been found among different types of colleges studied at any one time, particularly between public and private institutions.

3. Both the underlying and self-reported causes of most college dropouts are multiple.

    a. At least one-third of the dropouts have had academic difficulty in college (and often earlier); however, the percentage which was forced by the college to withdraw because of poor scholarship is not known.

    b. Personal and family finances are probably one of the three most important factors in attrition, at least from the students' viewpoint.

    c. Illness and injury account for only a small percentage of the dropouts although these factors may be contributing causes.

    d. Factors related to motivation and adjustment to college undoubtedly are more critical in the students' decision to drop out than other, more obvious reasons. However, our present knowledge of student values, goals, interests, and other noncognitive traits is woefully inadequate to the task of gaining insight into the phenomenon of attrition.

4. Attrition occurs among both good students and poor -- among students with a good prognosis who earn good grades but drop out anyway, those with a poor prognosis who do no better than expected, and those who should have succeeded but did not. Both individual

characteristics and institutional factors thus appear to be necessary foci in the study of attrition, e.g., quality of student input, educational process, and outcomes or payoff.

Critique of the Status Quo in Attrition Research

The finding of stability in the rate of attrition over time and across studies does not necessarily lead to the conclusion that the situation is static. Educational and other societal forces are at work in the 1960's which must certainly bring about significant changes in the phenomenon of attrition, if not in the actual rate. Some of the developments in education which appear to be logically related to attrition are:

1. The steady increase in the number and percentage of our youth who are going to college, as a result of both increased opportunity for higher education and greater value placed on it in our present-day society. With this increase we might expect greater heterogeniety in the entering student body with respect to academic and other abilities, family backgrounds, vocational and other interests, motivation, values, and other variables which may be related to attrition.
2. The phenomenal growth of the community junior college and a concomitant increase in the percentage of new freshmen who will take their lower division work in a two-year institution. There has been little speculation and almost no research on the question of the long-term effects on attrition and the production of baccalaureate degrees of

(a) increasing dramatically the opportunity for low-cost education in the students' home communities, and

(b) diverting students away from four-year colleges by raising freshmen admission requirements, increasing tuition and fees, and restricting enrollments by other means.

3. Improvements in the quality of the entering college freshmen. State institutions with open-door admissions policies are now becoming selective by both restricting admission to applicants who appear to have a reasonable probability of success and doing a better job of informing the high schools about the kinds of students who will succeed in their programs. At the same time, instruction in the high schools is both accelerating and improving as a consequence of Sputnik, the National Defense Education Act, and other forces.
4. Greater diversification of opportunity in both two- and four-year colleges in the various states, as teachers colleges and others become multipurpose institutions, as state scholarship and other financial aid programs are expanded, and as more communities see the need for local opportunity for education beyond the high school. Youth may even become confused by the plethora of opportunity available after high school, e.g., professional and occupational training in the engineering field offered by a number of different types of tax-supported colleges. (The bases for initial choice of college are clear neither to the researcher nor, probably, to the high school senior who, with his parents, makes the choice. High school counselors also appear to lack adequate information about the various college programs.)

5. Greater mobility of college students, from two- to four-year colleges, between four-year colleges in the same and different states, to overseas campuses (or just to travel abroad for a brief period), into the Peace Corps or to work in social action programs such as voter registration in the South, sometimes as temporary dropouts and sometimes permanently.
6. Greatly increased competition for admission to the "preferred" colleges; fears on the part of parents and high school students about gaining admission to any college; enrollment pressures in public institutions resulting from the expected increase in the number of youth wanting to attend college; and, in some cases, rapid uncontrolled growth in previously small colleges with a concomitant lack of regard for the welfare of the individual student.

A few of the societal trends in the 1960's which appear to have some bearing on college attrition are:

1. The atmosphere of "peace and prosperity" which has come since the completion of Iffert's massive inter-institutional study of attrition. No really national census of college dropouts has ever been made during a period characterized by neither a major war nor a serious depression.
2. Changes in the Selective Service Act and veterans' benefits which alter the "climate" in which male high school seniors make decisions about college attendance and military service or, if college is entered, about persistence and attrition in relation to military service. Revisions in the regulations governing military service requirements are occurring quite regularly which tend to make

college attendance an attractive post-high school activity under some circumstances and, in others, to provide inducements to enter service right after high school. Reinstatement of veterans' educational benefits would, of course, add to already mounting enrollments of new students in college.

3. Early marriage and child-bearing while students are undergraduates in college; changes in the colleges' attitudes toward programs or services for such students.
4. Social unrest among college-age youth, greater identification with social causes and national crises, attraction (away from college) of the Peace Corps and other youth action groups.
5. The greater questioning of traditional values--religious, social, political, educational--in families with a college-going tradition; diminution of the stigma formerly attached to lack of church affiliation, early marriage, dropout from college, and other deviations from expected patterns of behavior associated with social class membership.

These are only some of the changes and developments which are believed to support the contention that a new, many-pronged attack on attrition research is needed at the present time. The high school dropout has been the subject of a considerable amount of discussion, research, and action recently at the federal, state, and local levels, in a fairly massive attempt to reduce its incidence. Perhaps the time has come to give similar attention to the college dropout in whom so much has been invested up to the time of his attrition.

The assumption that a relatively stable rate of attrition over time implies a static set of circumstances in our colleges is believed to be but one of a number of questionable operating assumptions that have tended to confuse the design of past studies and the interpretation of their findings. Other such assumptions (which we might label "We-act-as-if's") that appear to be applicable to a considerable body of research on attrition are:

1. Every student who enters a four-year college has both the ability and the motivation to complete a baccalaureate degree program in that college while in continuous attendance.
2. Every student who fails to enroll in each successive semester after admission is a dropout and, in the eyes of the college, a failure.
3. Attrition is unrelated to academic ability and achievement since as many "good" students have been found to drop out as "poor," and since academic difficulties account for only one-third of the dropouts.
4. Attrition for academic and other reasons is necessarily harmful to the student and a loss to the college, i.e., that every dropout is in fact a failure.
5. Student characteristics which may be relevant to attrition can be measured or assessed at the time the student is admitted and the information recorded and stored for later use in research when the student drops out or graduates. In other words, the assumption appears to be made that the characteristics are static, that education does not change them (and, in effect, has little to do with them), and that no new behavior will manifest itself during college which might be related to the act of dropping out.

Many other operating assumptions which have prevailed in the past research could and perhaps should be made explicit in order to evaluate their usefulness. However, a more challenging task is the development of a new set of assumptions which might more properly be labeled as "assertions" in view of their departure from tradition.

Framework for New Research on Attrition

The following assertions about the nature of attrition and probable conditions under which it takes place may be viewed as an elementary framework for the design of new, needed research. The list is by no means exhaustive; the assertions may need to be modified on the basis of further discussion and research.

1. Individual and institutional attrition are both a function of the interaction of student input (ability, interests, age, sex, motivation), the curriculum, methods of instruction, grading and retention standards, intellectual and other "climates," student personnel services, activities, and, finally, outside impinging forces (family, national crises, accidents). Successful programs to change one or more of the factors should result in a change in the volume and nature of attrition in a particular college.
2. While some characteristics of entering students are fixed (or static), others can and should change as a consequence of education and/or maturation. Some rather obvious examples of static traits are age at the time of admission, sex, race, family origins, prior educational achievement, and native ability. Examples of characteristics which might be expected to change are subject-matter and other interests, values, insight into self, strength

of motivation, socialization, and habits. Institutional objectives might reasonably include some of these changes, stated in behavioral terms which would permit their periodic reassessment in connection with attrition research.

3. High school graduates enter college with a vast range of goals, aspirations, motivations, and values. Some come with specific educational and vocational goals which they established many years earlier, e.g., medicine and teaching. Others may seek general education without a specific commitment to earning a baccalaureate degree. Still others, particularly in junior college, enter with no real goals and little motivation for college. For some, college attendance represents either an avoidance of some other activity (such as low-paid employment) or the marking of time after high school until marriage or military service. Attrition is to be expected among students with each type of motivation (or without any), but for different reasons.

    a. Students with strong motivation and specific interests may have made unwise choices, in terms of their academic potential or their insight into the demands of training for their chosen field. Unless they are able to modify their goals while in college, they will become early candidates for attrition.

    b. Students with only very general goals may withdraw as they complete one or more years of college unless they are stimulated to pursue knowledge for its own sake or to develop more specific goals which can be achieved only through baccalaureate-degree programs.

    c. Similarly, students who attend college for lack of a more attractive opportunity after high school may withdraw early with only a flimsy excuse, having accomplished little but the passage of time, unless they develop interests and drives which will keep them in college.

4. Both the causes and the resultants of attrition on the part of

individual students are usually multiple, although a single incident may serve as a trigger for the dropout action. Most students begin to think about dropping out long before they actually do so. As they progress through their four-year programs, the probability of their persistence and eventual graduation increases as the factors of unsatisfactory grades, financial problems, lack of interest or motivation, and poor adjustment diminish in importance.

5. The decision to withdraw or persist is not always within the province of the students who are dropouts. Perhaps no more than half the dropouts have freedom of choice. For example, academic dismissal is the cause of many lower division dropouts from public institutions. Other instances in which the student may have no real choice are disciplinary suspensions, illness or accidents which incapacitate the student at least temporarily, loss of financial support for college, and, occasionally, military service. It might be argued that the causes are multiple even in these instances, in that the student may fail because of financial distress or poor social adjustment. However, for purposes of research it appears useful to dichotomize withdrawal action as forced or voluntary, in terms of the students' opportunity to make a choice about persistence.
6. A second type of distinction which should be made is among dropouts who transfer to other colleges (particularly from junior colleges), those who withdraw with a definite plan to return after a brief absence, and those who leave with the impression of permanency. There is fairly widespread agreement that the volume of

transfer is large at the present time and growing, although documentation is lacking. The incidence of temporary withdrawal is also increasing, particularly in the elite colleges among students who have few financial or academic difficulties. While it might be argued that the only really permanent dropouts are the deceased, there is reason to believe that some compromise can be reached between the extremes of the machine-produced census which labels every non-returnee a dropout (including graduates and name-changers) and the defensive administrator who claims that every student will eventually graduate -- somewhere, some day.

A first priority, then, appears to be the construction of an explicit philosophic framework as a proper context in which research on attrition can be carried on. Such a framework needs to consider attrition as it involves the individual student, the college from which he withdraws, and society, broadly defined.

The individual student: If the previous assertions are true, i.e., that students come to college with a wide range of abilities, goals, and motivations, and may achieve their particular goals in different ways and in varying amounts of time, the traditional concept of the college dropout as a loss needs to be re-examined. The motto of the vast and complex State University of New York seems to be an appropriate starting place for considering individual attrition: "Let each become all he is capable of being." Some of the questions which derive from this position are:

1. How can we obtain a valid assessment of the student's intentions (with respect to persistence), goals, values, interests, and motivations at the time he enters college, which would facilitate an

evaluation of his subsequent withdrawal in terms of his own framework?

2. What is the function of periodic reassessment of goals, motivations, and the like, both during and at the end of particular academic years? Can these assessments be made in such a way as to serve an educational as well as a research function?
3. How can we evaluate the achievement of the student who drops out after one or two years (or even after the first semester)? How can his transcript be made to reflect this achievement in a more meaningful way?
4. What kind of educational experience would we plan for a student if we knew he (or she) intended to spend only one year, or perhaps two, at the college?
5. What new hypotheses can be formulated concerning the relationship between socio-economic factors and attrition, involving the effects of home background, family commitment to college, and other possible deterrents to persistence? What are the intervening variables and how do they change as the student progresses through college?
6. How do we regard the student who enrolls only sporadically but who intends to complete a degree program? What is the effect of such a pattern on his ability to do satisfactory work, in terms of forgetting while not enrolled, recency of knowledge, and distractions? How can he be helped to fit back into the program without undue loss of time or risk of failure?

The college or university: Institutions have been found to vary as much as the students enrolled in them with respect to a variety of characteristics which are at least logically related to attrition rates. If the assertion is true that attrition is a function of the interaction between student input, curriculum, intellectual climate, and the like, then each college would appear to have a responsibility for making its position clear with respect to these factors. A few of the important institutional factors and their dimensions which need to be made explicit in attrition research are:

1. Student input: Colleges may be grouped roughly with respect to their admission and retention policies as: (a) highly selective with attrition taking place before admission, in the sense that the college admits only those with a high probability of succeeding and makes every possible effort to retain every student it admits; (b) selective academically but still expecting attrition in the lower division for reasons of poor scholarship, lack of interest, and other factors; often the attitude is taken that the institution's responsibility does not extend beyond making opportunity available and that students are expendable; (c) non-selective, with opportunity for all to try any program offered, with the expectation that drastic screening on the basis of scholarship will take place in the first year or at the end of the lower division.
2. Responsibility to society (or to a particular clientele): Colleges vary on this dimension from the community junior college which is created as a service institution for all high school graduates, with an obligation to offer programs which meet the needs and are in keeping with the quality of the students served, to the elite private college, which may formulate goals of its

own choosing, establish programs and standards it feels are appropriate, and select among the multitude of candidates who present themselves for admission. Positions need to be taken concerning the segment of society to be educated at the particular college (ability levels, socio-economic status, sex ratios), specialized programs to be offered, retention standards and their implementation, "image" to be created or perpetuated, approaches to instruction and advising, and attention to the welfare of the individual student.

3. Goals and objectives: Still another assertion which might have been made is that college catalog statements of goals and objectives often are quite meaningless to the researcher who attempts to understand the institution. The absence of behavioral definitions of objectives is one kind of handicap in research; ambiguity concerning the college's role in achieving non-intellective objectives is another. The relationship of this area to attrition is through student perceptions, motivations for choosing a particular college, specific goals to be achieved, and the like. For example, a large state university with objectives which are primarily concerned with subject-matter and scholarly pursuits may expect to lose large numbers of students who may have the ability but no strong academic interests, who tend to be dependent on their instructors for both encouragement and rewards, and who are accustomed to individual attention in instruction. In the junior college, on the other hand, counseling co-exists with instruction as a major function. Thus, a student who drops out

because he has failed to achieve his personal (as opposed to academic) goals should be a prime concern of the junior college in evaluating attrition.

Society: Society's interest in attrition may be represented by lay governing boards, legislative committees, special study commissions, and, occasionally, by taxpayers who must vote on bond issues and other revenues for higher education. Its role in establishing the proposed framework may be a judgmental one: Can society afford the attrition rate experienced by particular colleges in terms of both the cost of educating students and the need for engineers, teachers, and others with college degrees? We have perhaps reached the point where the freedom of every high school graduate to choose the public college and program in which he wishes to continue his education may have to be weighed against society's ability to provide out of public funds unlimited opportunity for all without regard to their potential. A few of the societal questions on attrition to which research alone cannot supply answers are:

1. While it is assumed that top students (academically) should have fairly complete freedom of choice of college and that none should be handicapped by race, ethnic origin, economic resources, and the like, how far down on the ability scale can we afford to extend this complete freedom of choice? At what level of ability do we begin to restrict opportunity by limiting choice; for example, by requiring some students to demonstrate their ability to do college work in a junior college?
2. If admission standards, programs, grading, and such are all in harmony in a particular college, what percentage of our entering

students should we expect to graduate? Stated another way, if a college has been directed to admit only students who graduated in the upper third of their high school classes and, presumably, to establish appropriate programs for this ability group, what is a reasonable attrition rate for the college? At what point is the judgment made that programs are inappropriate (because of high voluntary attrition) or that standards are unreasonable (because of high attrition for poor scholarship?

3. How far can or should a public college go in changing standards, programs, and services in attempting to reduce attrition?
4. How does the societal role differ for private colleges and universities, both elite and otherwise?
5. How can information about the colleges be disseminated more effectively to the public, e.g., the kinds of students who succeed, the unique programs and features of particular colleges, the intellectual climate, and the non-intellectual side of college life?

Promising New Studies

Among the recent studies which have not been included in previous research summaries are several longitudinal research projects which have been undertaken at the Center for the Study of Higher Education,[2] a ten-year study of male students in a freshman class at a major state university, and a four-state comparative study of two- and four-year college students. The Center studies have been national in scope, involving samples of colleges in three instances and of communities in a fourth. Attrition has been only one of many concerns in the several studies but new insights into the dropout problem are expected to result. The most pertinent is probably the third phase of a longitudinal study of about 10,000 1959 high school graduates in a sample of 16 communities which differed with respect to local access to higher education. The emphasis in the last phase of the five-year study will be on factors associated with various patterns of college attendance, including delayed entry into college, temporary and permanent dropout, transfer, and delayed graduation. Data collection began during the students' senior year in high school and included a biographical questionnaire, attitude surveys, an ability test, transcripts, and interviews. High school graduates who failed to attend college were included in the follow-up, as well as those who entered college immediately after high school. Special attention in the final phase will also be given to able high school graduates in the upper 40 per cent of the ability range who did not attend college during the follow-up period.

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[2] See Annual Report for detailed description of the various studies, obtainable from the Center for the Study of Higher Education, 4606 Tolman Hall, University of California, Berkeley.

A few of the tentative unpublished findings are that 51 per cent of the students who entered college immediately after high school were no longer enrolled by the spring term four years later and only 27 per cent expected to receive their baccalaureate degree at that time. The attrition figure seems high since transfer students were not regarded as dropouts, unless they were no longer enrolled in any college. However, the choice of certain assumptions about junior college students, who constituted one-third of the total entering college group, may account for the high incidence of attrition. All junior college students except those who were enrolled in terminal or vocational programs were regarded as potential transfer students. From an extrapolation of available figures it appears that fewer than one-third of the junior college students did in fact transfer. In the total college-going group, one student in five transferred at least once during the four-year follow-up period. Attrition was also high for students who delayed their entrance into college although it was expected that their motivation would have been at least as great as that of students who entered immediately after high school. The various attendance patterns will be related to a wide range of personal and academic characteristics of the students, their family backgrounds, economic status, and vocational experiences after high school.

A second Center study involved an analysis of the performance of transfer students from junior colleges to a sample of 41 four-year colleges and universities in ten states.[3] Nearly one-third of the students withdrew at least once after transfer although most had junior standing at the time of transfer and were thus expected to be good risks. Nearly two-thirds of the dropouts left with grade-point averages below C, although less than half were dismissed. Many students in the attrition group transferred to still another four-year college and made records which were about as good as the records made by students who persisted in one institution after transfer. The most striking finding from the study is undoubtedly the great variation among the four-year colleges in the degree of success experienced by the transfer students, both among similar types of colleges, e.g., major state universities, and among colleges in particular states. The implication of the findings is that the success of the transfer student is dependent in large part upon his appropriate choice of four-year college and major program. Financial factors were also found to loom large in the circumstances leading to the withdrawal of this group of transfers, a large percentage of whom went to junior college as freshmen as a consequence of poor financial support for college.

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[3] D. M. Knoell and L. L. Medsker, Factors Affecting Performance of Transfer Students from Two- to Four-Year Colleges: With Implications for Coordination and Articulation. Center for the Study of Higher Education, University of California, Berkeley, 1964; also, Articulation between Two-Year and Four-Year Colleges, to be published in the fall, 1964.

The third Center study to be noted is another longitudinal follow-up of students who entered a sample of eight colleges in the fall of 1958, including Reed, Antioch, Swarthmore, St. Olaf, San Francisco State, the University of the Pacific, the University of Portland, and the University of California at Berkeley. The focus has been on the intellectual development of the students attending these institutions which varied in significant ways. Studies have been made of differential recruitment to the several colleges and particularly of changes in the characteristics of the students during their college careers. Extensive interviewing and visitation have taken place throughout the study, as well as data collection involving the Center's Omnibus Personality Inventory, biographical questionnaires, and a variety of other measures of academic and other performance. While no final report has yet been published, some of the preliminary findings show: (1) a very high loss from higher education of the academically talented, creative women who are attracted to the "elite" colleges but who do not seem to find satisfaction in the regular programs offered by them; (2) the likelihood that certain types of potential dropouts could be predicted well in advance from personality and other measures obtained at the time of admission, particularly in the case of the rather unique and relatively small liberal arts colleges;

and (3) the seeming inability of youth in their late teens (particularly women) to make rational decisions about college attendance when alternatives to persistence are offered, e.g., a proposal of marriage. Attrition has unfortunately been only a somewhat minor concern in the study, which is now nearing completion. However, extensive data for the dropouts have been collected, which could be analyzed within a framework of attrition research.

Still another study which has recently been published by the Center is John Darley's Promise and Performance: A Study of Ability and Achievement in Higher Education.[4] The research involved first the analysis of ability data for all new freshmen in 1952 in a sample of 200 colleges and universities and, second, a longitudinal study of the entering 1956 college freshmen in four states -- Minnesota, Wisconsin, Ohio, and Texas. The 200 colleges (an 11 per cent sample) were selected on the basis of geography, type of control, and level. States were selected which had both the capability and the willingness to undertake a major program of data collection and analysis over a period of time. The findings concerning attrition in the four-state study do little more than confirm those obtained in many other studies. For example, fewer than half the students graduated at the end of four years and the percentage of withdrawals was about the same as the percentage of graduates. Only a small percentage was dismissed for poor scholarship; the remainder of the dropouts contained subgroups with differing motivation, socio-economic status, and scholastic ability. Darley observed that the dichotomy of graduation-attrition was related to the particular institution the student chose to attend, even though the various types of colleges tended to draw students of about the same ability level. Transfer "upward" was examined in two states, i.e., from two-year, state, and private colleges to the major state university, but not "downward," e.g., from the university to the junior college after financial or academic troubles set in. Darley concludes that there is a college for every level of ability and every level of family financial resources; however, he also concludes: "Higher holding power, better patterns of movement within the system, more attention to the characteristics of individual students, more concern with able individuals, closer consideration of the reciprocal impacts of student characteristics and institutional objectives--all these are essential if the total system is to be truly diverse."[5]

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[4] John G. Darley, Promise and Performance: A Study of Ability and Achievement in Higher Education. Center for the Study of Higher Education, University of California, Berkeley, 1962.

A recently completed study by Bruce Eckland of the 1952 male freshmen at the University of Illinois should also be noted, for it appears to represent a real break-through in both techniques for locating students after they have left college and findings concerning attrition.[6] Ten years after admission a highly successful attempt was made to locate all male class members who were born in 1934 and who were Illinois residents when they entered college as full-time students in 1952. All but 6 per cent of the group cooperated in filling out a questionnaire as a result of three waves of mail, telephone contacts, and a certified letter. In addition, records and verification of status were obtained from 104 colleges and universities to which the students transferred from Illinois. The findings are that about seven out of every ten male freshmen received a baccalaureate degree from some institution. The seven graduates included four from the University of Illinois while in continuous attendance, one from the University after a break in attendance, one from another college without a break, and the seventh from another college after a break at the time of transfer. Half the students dropped out at least once. Three of every five dropouts graduated, one returned to college but dropped out again, and one failed to return during the ten-year follow-up period. One gap in the findings from Eckland's study is the lack of information about the students' scholastic standing at the time they dropped out of the University and the type of institution to which they transferred and later graduated. Thus we do not know what percentage of the dropouts occurred as a result of poor initial choice of university or program, in terms of ability to do the work. However, very extensive sociological data were gathered by questionnaire for the students which are being related to persistence and attrition in other sub-studies.

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[5] Ibid., p. 162.

[6] Bruce K. Eckland and Anita C. Smith, A Follow-up Survey of Male Members of the Freshman Class of the University of Illinois in September 1952. Office of Institutional Research Report No. 105. University of Illinois, Urbana, 1963.

One additional ongoing study should be noted, which is being carried on by staff in the State Department of Education of the University of the State of New York. Entering students in a sample of 22 two- and four-year colleges in four states (New York, Florida, Kansas, and Texas) were selected for a longitudinal, comparative study which was designed to yield a comprehensive view of the two-year college student and of the individual and institutional factors that lead to successful or unsuccessful experience in two-year and four-year institutions. Repeated testing and follow-up will be done during the four-year period after their admission in 1963, using a battery of aptitude and achievement tests and various attitude measures. Grade point data will also be obtained. Since the first year of the study has just passed, no findings are yet available. However, the investigation appears to provide a useful model for other attrition studies.

Even a cursory review of new studies of note would be incomplete without mention of the plans of one of the more elite, small liberal arts colleges to institute a two-pronged program to combat attrition among its very capable students. The first effort affects all incoming students; the second, only those students who signify their intention to drop out. The college-wide program involves a major change in the freshman curriculum in an attempt to make the first year so intellectually stimulating to the students that they will be highly motivated to return for a second year. The technique will be the use of small seminars without the usual subject-matter structure. The second attack is a plan to help would-be dropouts plan a year away from the college, often in another type of institution, and to invite them back at the end of the year, at the same time making it easy for them to fit back into the program. The plan will extend beyond mere counseling to the extent of making arrangements for such students and, in some cases, providing financial assistance to enable students to carry out their plans.

Only a few of many promising studies have been noted, which appear to have potential usefulness both as models and as sources of new insights into the phenomenon of attrition. Others are undoubtedly being carried on elsewhere which are also deserving of note; still other lines of investigation need to be started to fill in gaps in our knowledge.

Suggested Areas of Needed Research

For purposes of discussion, needed research on the college dropout may be subsumed under three very general categories: longitudinal, census-type studies; investigations of institutional characteristics related to attrition and programs to reduce attrition; and student characteristics studies as they pertain to the early identification, evaluation, and remediation of dropouts. It is assumed that any active program of research on attrition would be accompanied by a continuing effort to improve definitions, methods of search and follow-up, categorizations, and the like, and by a consideration of the educational and philosophical issues involved, by both the researchers and other members of the academic community.

National, census-type study: There appears to be a present, compelling need for a new national study of the incidence of attrition, which would of necessity be longitudinal in nature and which might conceivably continue indefinitely if sufficiently routinized. Such a study should take into account in its design at least some of the changes in higher education which were suggested earlier, for example, the increased mobility of students among undergraduate colleges. Some of the major points of emphasis in a national census study might be:

1. Outcomes for junior college students, including attrition before completing programs of specified length, failure to enter a four-year college after completing a transfer program, transfer to a junior college after dropping out of a four-year college, and transfer to a four-year college before completing junior college.
2. Temporary dropouts for academic and other reasons, with readmission to the same or a different college, including length of the absence from college.

3. Voluntary and forced attrition with satisfactory grades (C average and above), passing but unsatisfactory grades (between C and D), and failing grades (average below D).
4. Early entry into professional school before receiving the baccalaureate degree; entry into graduate or professional school after graduation (both immediate and delayed).

While problems of logistics should not be underestimated, it is believed that a basic model for data collection might be developed for local use in the participating colleges, with centralized data analysis using high-speed computer programs.

Institutional characteristics: The use of a basic model for routine attrition studies, including longitudinal follow-up and feedback as students transfer to other colleges, would free individual institutions (or groups of colleges with common interests) to design more complex studies of the factors producing particular rates of attrition and action research programs to alter the rates. The study of attrition at the institutional level is seen as a team problem involving the faculty, admissions and records staff, all areas of student personnel services, and, of course, administrative staff involved in research and planning. Students might also be involved in various aspects of the program. The contributions of such disciplines as sociology and anthropology do not yet appear to have been used to full advantage, particularly in the analysis of institutional characteristics as they relate to dropout.

A few of the more compelling institutional studies which might be undertaken, as baseline data become available, are:

1. The impact on attrition of policy changes such as increased

selectivity in freshman admissions, more rigorous retention standards, tougher graduation requirements, and other major changes in program.

2. The initiation of action research to reduce attrition after admission, for example, by experimenting with loan programs, beefed-up counseling services for students with motivational problems, orientation activities for freshmen and transfer students separately, improved student-faculty relationships, and other increases in programs or services.
3. The effectiveness of articulation with high schools and with two- and four-year colleges between which the "dropouts" transfer with some frequency; the improvement of high school counselor training and of services to high school counselors by the colleges; analysis of the perceptions of high school counselors concerning the colleges about which they are counseling students.
4. The social class origins of the dropouts in relation to their prior educational achievement and their pattern of values at the time of admission.
5. The perceptions of students before and after admission (and later attrition) concerning competition for grades, socialization, faculty viewpoints, institutional goals, and other factors which are involved in "climate."
6. The periodic assessment of changes in motivation, values, and interests from the time of freshman admission to attrition or graduation.
7. The analysis of dropouts who transfer to other colleges, to find

out whether they made a poor initial choice of college in terms of their ability, interests, perceptions, finances, and other factors, and whether such mistakes could be avoided by providing more complete (or a different type of) information to prospective students and their parents.

Other institutional studies for which there appears to be a need are cooperative projects involving several colleges with apparently similar programs but varying attrition rates, in an attempt to find out what are the differentiating factors. One possible factor which should be investigated is the effect of different types of retention policies on long-term attrition rates, when ability is controlled. Policies vary widely and apparently without reason with respect to the use of probation and warning status, types of dismissal action (automatic, subject to review, with and without immediate reinstatement, at the discretion of the dean, and by other administrative officers), and conditions for reinstatement after dismissal (immediate or delayed, with different types of recommended intervening experience, and with different conditions for retention after readmission). Some colleges appear to be retaining students who have little probability of ever achieving a degree, when their averages are compared with the standard required for graduation, while other colleges are dismissing students with averages only slightly below C and no failing grades. While values and standards are of course involved, it appears that makers of retention policies should take into consideration their probable effects on undesirable attrition among students with the ability to succeed.

While colleges vary with respect to a wide range of characteristics, they may be grouped for research purposes on the basis of type of control, complexity of program, quality of entering students, and possibly other variables which might become apparent in the course of the census-type studies.

Individual characteristics: The third general category of proposed research involves intensive work with individual students who are either potential or actual dropouts, in an attempt to predict, evaluate, and, hopefully, control wasteful attrition. Some possible lines of investigation which differ from the institutional studies in both design and intent are:

1. The early identification of likely dropouts by (a) securing periodic self-reports of intentions and motivations; (b) noting behavior which may be symptomatic of attrition, such as excessive cutting of classes, infractions of rules, and repeated visits to the health service; (c) analyzing diary-type records kept by the student as an adjunct to faculty advising, particularly during the lower division; and (d) flagging records of entering students with particular syndromes of characteristics sometimes associated with attrition at the particular college.
2. An end-of-term or summer action program to salvage would-be dropouts, which might be patterned on the recent high school campaign.[7] Such a program would involve identifying probable dropouts whom the college would like to retain, e.g., high-ability students who lacked motivation to continue in college and capable students with average grades who had unanticipated financial problems. A casework approach might then be taken to assist the would-be dropouts

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[7] The 1963 Dropout Campaign. U.S. Department of Health, Education, and Welfare, Bulletin, 1964, No. 26. U.S. Government Printing Office, Washington, 1964.

in remedying one or more of the factors responsible for the dropout action. (The program differs from the college-wide approach to increasing services in an attempt to reduce attrition in that it concentrates on the individuals whom the college would like most to retain.)

3. An evaluation of the dropout action after it occurs, in terms of its effect on the personal and educational development of the individual. Such research would hopefully throw light on the question of whether academic failure and other forms of adversity are necessarily harmful to the student, i.e., how far we should go in keeping students from experiencing failure. Both short- and long-term effects need to be studied -- the immediate effect on the dropout's ability to cope with his everyday problems and the long-term effect on his attitudes toward education, his voting behavior, his vocational development, and other behavior patterns in adult life.
4. Analysis of the process of decision-making about attrition, where it is clearly the choice of the student: are there peak times during the semester (or year) when students think seriously about dropping out? With whom do they talk about it? Who appears to influence their thinking about attrition? When does the final decision tend to be made? What kinds of incidents trigger the final decision? What is the time lag between the preliminary thinking and the decision, and the decision and the action? What point in time seems best for taking preventive action?

Conclusion

If efficiency in the retention of students and the production of baccalaureate degrees is an appropriate criterion in evaluating our system of higher education, our report card is not a good one. The more we restrict opportunity, in terms of imposing selective admission standards and economic barriers to obtaining a college education, the more "efficient" we are in securing a good ratio of graduates to incoming freshmen. However, the challenge is to increase our efficiency while at the same time to expand opportunity in higher education to all who can profit from education beyond the high school, regardless of social class, race, ethnic origins, and other traditional handicaps. It has been said that one of the biggest problems facing us in higher education now is the frustration we are creating by our expansion of opportunity, the implication being that providing opportunity alone is not enough without assisting students to profit from it. Do we have an obligation to "educate" our youth to take full advantage of the educational opportunities now being opened to them? How can our studies of attrition contribute to this education?

APPENDICES

APPENDIX A
CONFERENCE PARTICIPANTS

APPENDIX B
BIBLIOGRAPHY

RESEARCH CONFERENCE ON COLLEGE DROPOUTS

GATLINBURG, TENNESSEE

AUGUST 24-26, 1964

List of Conference Participants

Dr. Jefferson D. Ashby
Associate Director of Counseling
Pennsylvania State University

Dr. Paul Bloland
Dean of Students
Drake University

Dr. James R. Connor, Director
Office of Institutional Analysis
University of Virginia

Mr. J. J. Hayden, Jr., President
Mississippi Gulfcoast Junior College District
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Dr. L. Joseph Lins, Coordinator
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Dr. George L. Marx, Director
Office of Executive Dean for Student Life
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Mrs. Pearl Max, Administrator
The City University of New York

Dr. James R. Montgomery, Director
Institutional Research
The University of Tennessee

Dr. Wilfred A. Pemberton
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Dr. Lawrence A. Pervin
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Undergraduate Students
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Dr. Travis D. Rawlings, Dean
Midway Junior College (Kentucky)

Dr. Harold C. Reppert
Director of Testing Bureau
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Dr. Catherine R. Rich, Registrar
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Dr. G. M. Sawyer, Director
Institutional Research
Tennessee A. & I. State University

Dr. John Stecklein, Director
Bureau of Institutional Research
University of Minnesota

Dr. Robert F. Suczek
Student Health Service
University of California

Mrs. Virginia Knies, Secretary
Institutional Research
The University of Tennessee

In addition, several members of the faculty from The University of Tennessee and neighboring colleges attended sessions from time to time.

APPENDIX B

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